

DOCUMENT RESUME

ED 323 018

PS 019 024

AUTHOR Hamburg, Beatrix A.
TITLE Life Skills Training: Preventive Interventions for Young Adolescents. Report of the Life Skills Training Working Group.
INSTITUTION Carnegie Council on Adolescent Development, Washington, DC.
SPONS AGENCY Carnegie Corp. of New York, N.Y.
PUB DATE Apr 90
NOTE 145p.; Part of a series of working papers prepared for the U.S. Congress Office of Technology Assessment's Adolescent Health Project. For other papers in this series, see PS 019 023-029 and ED 302 619.
AVAILABLE FROM Carnegie Council on Adolescent Development, 2400 N Street, NW, 6th Floor, Washington, DC 20037-1153 (free).
PUB TYPE Guides - Non-Classroom Use (055)
EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Community Programs; Curriculum Development; *Daily Living Skills; *Elementary School Curriculum; Intermediate Grades; *Intervention; Junior High Schools; Junior High School Students; Middle Schools; Models; *Preadolescents; *Prevention; Program Evaluation; Program Implementation
IDENTIFIERS *Conceptual Models

ABSTRACT

This report deals with essential life skills for young adolescents. At present, there is a need to formally and systematically teach middle and junior high school students life skills for surviving, living with others, and succeeding in a complex society. An introductory section is followed by a discussion of early adolescent development and life skills and core elements of life skills training. Attention is then given to: (1) school-based interventions, including interpersonal problem solving, social competence training, a drug and alcohol project, linked school and community programs, and the Midwestern Prevention Project; (2) community-based interventions, including Girls Clubs of America, the Summer Training and Education Program, and the Salvation Army; and (3) promising new conceptual models, including the School Development Program, a Rochester Schools experiment, community prevention of alcohol and tobacco use, the Violence Prevention Project, and research leading to an anticipated middle-school violence prevention curriculum. The next section discusses program implementation and evaluation. Concluding remarks focus on the need for dissemination of information about effective life skills training and recommendations for implementation of preventive programs in middle schools. Sixty references are cited. (RH)

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LIFE SKILLS TRAINING: PREVENTIVE INTERVENTIONS
FOR YOUNG ADOLESCENTS

Beatrice A. Hamburg, M.D.

Report of the Life Skills Training Working Group
Carnegie Council on Adolescent Development

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This working paper was prepared for the Carnegie Council on Adolescent Development as part of its discussions about life skills training and other preventive interventions for young adolescents. The aim of the Working Paper series is to communicate to interested persons about the ongoing activities of the Council. Preparation of this paper was supported, in part, by Carnegie Corporation of New York. The papers do not necessarily reflect the views of the Council or Carnegie Corporation. Responsibility for the content of the paper rests with the author.

The Carnegie Council on Adolescent Development is a program of Carnegie Corporation of New York, and is located at 2400 N Street, NW, Washington, DC 20037-1153, (202) 429-7979.

PS 019024

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TABLE OF CONTENTS

FOREWORD	i
I. INTRODUCTION	1
II. EARLY ADOLESCENT DEVELOPMENT AND LIFE SKILLS	7
III. LIFE SKILLS TRAINING - CORE ELEMENTS	18
IV. SCHOOL-BASED INTERVENTIONS	27
A. Interpersonal Problem-Solving	29
B. Social Competence Training	32
C. Drug and Alcohol Project	37
D. Linked School and Community Programs	43
E. Midwestern Prevention Project	49
V. COMMUNITY-BASED INTERVENTIONS	54
A. Girls Clubs of America	54
B. The Summer Training and Education Program	58
C. Bridging the Gap - Salvation Army	63
VI. PROMISING NEW CONCEPTUAL MODELS	72
A. The School Development Program	72
B. Rochester Schools Experiment	74
C. Community Prevention of Alcohol and Tobacco Use	78
D. Violence Prevention Project	86
E. Aggressors, Victims and Bystanders: A Middle-School Violence Prevention Curriculum	98
VII. IMPLEMENTATION AND EVALUATION	99
VIII. CONCLUSIONS - NEXT STEPS	120
SELECTED BIBLIOGRAPHY	127
MEMBERSHIP OF THE LIFE SKILLS WORKING GROUP	133
PROGRAM CONTACTS	135

FOREWORD
By David A. Hamburg

It is no accident that the Carnegie Council on Adolescent Development chose life skills training and social supports for special attention in considering interventions that might prevent a wide range of damaging outcomes in education and health during childhood and adolescence. These are fundamentally important aspects of human adaptability. They have been crucial to our survival through the immense difficulties encountered along the way in millions of years of hominid evolution. It is useful to consider the evolution of non-human primates along with human societies and families in focusing special attention on the skills necessary for survival and reproduction, and our understanding of how they are acquired during individual development.

Until recently, adolescence was often described as a human invention. But recent research in evolutionary biology and related fields has changed the picture. Indeed, primates as compared with all other mammals are characterized by a long period of development before they reach reproductive maturity. Much study has focused on infancy, the time when the young primate is physically dependent on its mother. But there is a longer period when the young monkey or ape is relatively independent but not yet adult. This part of the life span is only now getting the attention it deserves. Nevertheless, there has been a substantial accumulation of information about the transition to adulthood in nonhuman primates, drawing both on field studies in natural habitats and on experimental studies in laboratory settings.

Much of the significance of the extended period of development between infancy and adulthood centers on the opportunity to learn about the environment in its physical and social features. Overwhelmingly, this time is spent in close relation to a small group of other primates of the same species and they offer extensive protection, modeling, feedback, and attachment. Although research is less abundant there is still much to be learned regarding the ways in which skills of obtaining food, avoiding predators and other survival skills are acquired, it is clear that this mostly occurs in a social context and that much of it is through the sequence: observation, imitation and practice. But after infancy, there is typically growing social interaction with other relatives, peers and some unrelated members of the social group. So crucially adaptive learning is largely social learning.

A great deal of time is spent during the years of growth and development in play. During play, juveniles learn dominance relationships, communication skills, the regulation of aggressive behavior, and a variety of social skills. Such learning is useful not only in the near-term but much of it has long-term significance, much of which is clearly relevant to avoiding

predators and to aggressive interactions with others of the same species.

The years of growth and development are abundantly utilized to learn the characteristics of a particular environment, to develop social bonds and the social competencies for living in the group.

In some ways, the nonhuman primate societies anticipate features of human societies. Although human societies have become far more complex than those of our ancient ancestors. Nevertheless, human societies are fundamentally adaptive mechanisms. Species that live in societies are distinguished by their great capacity for cooperation. Competition and conflict must somehow be subsumed within the framework of cooperation to make societies effective.

Our ancestors lived for many millennia in hunting and gathering societies. These hunting and gathering societies are characterized by the small size of their communities--typically between twenty-five and fifty people. Children growing up in these societies show many characteristics similar to those of nonhuman primates such as chimpanzees. The human children learn a great deal through play and especially through observing and imitating adults. At an early age, boys join the men in their regular activities and girls join the women. Thus, both sexes prepare directly for adult roles.

Accumulated evidence finds that hunter-gatherers were expert botanists and zoologists. They learned a great deal about plants and animals in the course of their adaptation. They knew the behavior patterns of the animals they hunted very efficiently. They identified hundreds of varieties of edible plants and knew a great deal about their life cycles. They also knew a great deal about what to avoid with respect to both animals and plants. Children and adolescents participated extensively and obtained increasing responsibility with the group as age and circumstances permitted. They learned the skills necessary to sustain life. A great deal of attention from parents and older siblings was the rule.

Family relationships have provided a powerful organizing principle throughout human evolution. Even in the nonhuman primates, kinship is an important determinant of social interaction and mutual support. In effect, the family in one form or another has been the locus of education, economic and social activity throughout human history. The industrial revolution brought about profound changes. Though some elements of change were present earlier, the transformation has been far more extensive in the past two centuries, and especially in the current one, than ever before. These changes are seen in many ways, including the smaller size of

nuclear families, the high incidence of divorce, the drastically changing roles of women, and the emergence of a youth culture.

No aspect of family life has changed more strikingly than the role of adolescents. The transition from childhood to adulthood through most of human history was steady, gradual and cumulative. Children were given tasks from an early age that bore some discernable resemblance to their responsibilities of adult life. These tasks increased in scope and complexity as the children grew older. By the time they reached adolescence they were largely prepared to carry out the tasks and roles that would be required of them and they knew what their opportunities would be as adults. With some confirmation by a rite of passage, they arrived rather crisply at a point of adult status or nearly so.

As the industrial revolution proceeded, the work roles were removed from a family setting and not readily observed by the growing child. The advent of machine-related productivity was such that the need for human labor was diminished and adolescents could not readily be absorbed into the job market. Moreover, it became clear in due course that some formal education would be necessary in order to cope with the tasks of the industrialized world--a tendency that is accelerating at the present time. So, minimal school attendance became compulsory for the first time. And a gradual process of extending the horizons of educational requirements has emerged. The time between childhood and adulthood became longer and adolescence has emerged as a distinctive status in its own right. The requirements, risks, and opportunities of this period are now highly ambiguous for many adolescents. As adolescents have had less and less opportunity for participation in the adult world, it is less clear to them how they can be useful and earn respect.

In the face of the world transformation of the 20th century and its profound effects on families, one of the basic issues--indeed an issue of human survival itself--is how to meet the crucial requirements for healthy child development and adolescent development. The task was relatively simple in earlier small, stable societies. Although modern developments have provided immense opportunities, they have also made the situation more complex, development more prolonged, and long-term outcomes more obscure. There is less continuity in some respects between the behavior in childhood and youth on the one hand and adulthood on the other hand than there ever was before.

At present, there is a great need for children and adolescents to find ways to develop a vision of the future, to formulate an image of what will be required of them in adulthood, to work out a perception of opportunity and paths in the direction of practical implementation of such opportunity, ways to earn respect and deserve self-esteem, modes of establishing a sense of belonging in at least one highly valued group. These needs reflect much

continuity with the whole of human experience. But the recent sociotechnical change of context has been so drastic that it imposes formidable stresses on the processes of child and adolescent development.

In the past, a clear future orientation was built into childhood experiences. Year in and year out, the child and adolescent would accompany, observe and imitate parents, older siblings, and related adults. The skills necessary for survival in individual terms and in group membership were developed gradually and on the whole effectively in relation to environments that changed only very slowly and could be understood as well as circumstances could permit in terms of group knowledge. Children and adolescents could build a solid foundation on which they could make a contribution, earn respect and find satisfaction as adults.

Now, with the rapidity of change, the prolongation of education, and the scale and complexity of society, the future is less clear. In some respects perceptions of present and future are most vividly portrayed on television, yet that is a mixture of reality and fantasy. The needed skills are usually less clearly specified than they used to be. What constitutes the life skills necessary for survival especially in the long-term? How does one learn to live with people--from whom most skills are derived--when societies are so large, complex, multifaceted, and diverse in outlook? We can no longer take for granted the life skills training and social support systems that were built into human experience over millions of years. Now, increasing attention is being given to formal education to provide or at least supplement the life skills training (including social skills) that historically were built into the informal processes of family and kin relations.

So this report deals with crucial skills for education and health that have a strong bearing on survival and the quality of life in contemporary American society--one of the largest, most complicated, rapidly changing societies that ever existed. One major category of skills involves social competence--ways of living with people effectively as humans must, under the transforming conditions of the modern world. There are several modes involved here:

1. Non-violent conflict resolution;
2. Friendship formation;
3. Peer resistance;
4. Assertiveness;
5. Renegotiation of relationships with adults.

This report addresses a major challenge. Young adolescents (10-15) are susceptible to high-risk problem behaviors without certain life skills. Therefore, it is useful to specify protective life skills and how to acquire them. This report illuminates some

life skills that are crucially needed in early adolescence, not just those that are handy or useful, but virtually essential. These skills are likely to be lacking to some degree in many different adolescent populations. The report suggests ways in which these life skills can be provided.

This report is oriented toward the following professional audiences:

1. Those who wish to understand better the full range of developmental challenges and educational needs for adolescents;
2. Those who want to apply existing knowledge--such as teachers, school administrators, youth-serving professionals and community workers;
3. Those who want to generate new knowledge--scholars and research workers in a variety of fields in the biological and behavioral sciences.

The report seeks to illuminate a variety of skills by describing a number of promising interventions. Each reader can select those skills and techniques most useful in a particular situation. Any given skill or intervention will be more pertinent to some populations than others. But the array is broad, the skills vital, and the approaches promising. This work takes a step toward fostering the healthy, adaptive development of young adolescents under the new conditions of contemporary life, even the most difficult ones:

I. INTRODUCTION

Background

There are new and heavy demands for the appropriate education and socialization of children and youth to prepare them to play constructive, productive and satisfying roles in our modern multiethnic, post-industrial society. The requirements now and in the future for jobs or careers in high technology or service industries are challenging, diverse and not easily achieved. There are a great many choices and much uncertainty in the modern world. In contemporary America, adolescents are confronted with crucial personal, health and family decisions that affect life options at increasingly younger ages, as early as 10 or 11 years old. Responsible citizenship in our society requires not only a broad fund of knowledge but also a range of social competencies that include such life skills as social problem solving, decision-making and skill in evaluating powerful media messages and persuasions. Our society is reevaluating the educational system. There is a need to clarify the full range of educational tasks that confront us. However, there has been very little attention paid to preparing our youth for successful adult life in the areas that fall outside the boundaries of traditional formal school curricula. Ralph Tyler expressed this succinctly when he wrote, "In brief, during the past fifty years, the educational requirements of our nation have increased sharply, but the informal institutions are contributing far less in serving these educational functions than they did in an earlier period. And, thus far we have not provided a satisfactory substitute, in our schools or elsewhere," (personal communication).

Clearly, education can and does occur beyond school in the child's other life settings. notably the family and the community. The structures and functioning of American families have also undergone substantial change in the latter half of this century. The nuclear family, a stable unit of two biological parents and their offspring, is far less prevalent today than in 1950 and before. It has been estimated that it now represents only about 7% of contemporary households. This change is attributable to the high rate of divorce, the number of remarriages with "blended families" and the increasing number of single parent households. Another striking difference in contemporary families is the very large number of working mothers. The employment rates have escalated sharply and are still rising. Many of these modern households are experiencing great strain with the result that traditional family educational and supportive functions are performed less dependably. At worst, there is not only neglect of important family socialization functions but there may be actual child abuse. When stressed families also reside in urban disadvantaged communities, positive role models and compensatory positive socialization opportunities are also likely to be missing. In the past it has been possible to overlook the social learning

deficiencies of these highly disadvantaged children and youth because their environments and the economy has demanded so little of them. For historical reasons a disproportionate number of children and families who live under marginal conditions and who experience undesirable outcomes are Black, Hispanic and other minorities. However, as the prevalence of problem behaviors among adolescents has escalated and the projected needs for a healthy, socially competent, highly educated work force has risen, there is recognition of the importance of addressing the fact that a substantial sector of our children and youth are not acquiring the knowledge and skills that are essential to function as competent adults in the mainstream of a post-industrial society.

Regardless of societal conditions, all adolescents have basic human needs that are enduring and are crucial to their healthy growth into adulthood. These include the need to be a valued member of a group that provides mutual support and caring relationships; the need to become a socially competent individual who has the skills to cope successfully with everyday life; and the need to believe in a promising future with real opportunities. Major changes need to be made in the preparation of young people for adult life, taking into account the far-reaching cultural and social changes. Providing adolescents with the basis for making informed and wise decisions about their futures and building supportive social networks in every community can enhance the motivation, skills, and aspirations of young people to invest in their education, to protect their health and enhance their life options. Preventive approaches, including life-skills training and the creation of social support networks, can provide the foundation for enhancing successful outcomes in mainstream adolescents and can offset underlying factors of vulnerability which, although concentrated in lower socioeconomic groups, contribute to high-risk behavior among all adolescents. The Carnegie Council on Adolescence has addressed the issue of social supports in early adolescence. As a companion effort to this report on Life Skills Training, Richard Price chairs a Working Group that has been asked to review the status and potential of social supports. Taken together, these two reports will offer an overview of the state of the art for preventive interventions that can promote healthy growth and personal development in early adolescents.

A Life-Skills Training Working Group was established by the Carnegie Council on Adolescent Development to examine the status of Life Skills Training efforts and to consider ways in which future programs could be shaped to better serve the needs of young adolescents. The working group draws on an interdisciplinary group of behavioral and social scientists in basic and applied research and on individuals engaged in relevant program development and implementation.

Definition of Life Skills Training

Life Skills training is conceptualized as the formal teaching of requisite skills for surviving, living with others and succeeding in a complex society. Because of profound changes in our society over the past few decades, it can no longer be assumed that these skills are automatically learned. Contemporary adolescents need help in acquiring a range of social competencies to cope with academics, to meet fundamental challenges of forming stable human relationships, to maintain hope about their future, to understand and adopt health promoting behaviors, to make wise decisions about life options, and to optimize use of social networks. Adolescents need general problem solving skills, planning and decision making skills, cognitive strategies for resisting peer or media influences, skills for increasing self-monitoring and self-regulation, coping strategies to deal with everyday stresses. These in turn, depend on the acquisition of specific affective, cognitive and behavioral skills as well as a relevant fund of knowledge.

A need currently exists to teach these life skills in a formal and systematic fashion with the logical focus of life skills training efforts being the early adolescents in middle/junior high school. The developmental and sociocultural interactions of early adolescents that dictate this choice are discussed in the following chapter.

In the past decade there has been scholarly interest and substantial efforts to devise curricula to teach life skills and promote social competence as prevention for adolescent problem behaviors. Some of the programs presented in this report have addressed specific problem behaviors such as smoking, alcohol use, sexuality, and have shown that a comprehensive life skills training program is effective. However, very recently, in response to heightened awareness of adolescent needs, there has been a proliferation of commercial life skills curricula that are of varying quality, mostly untested and often heavily marketed to schools. There will be no attempt here to evaluate or even list all of these products. Instead, the Working Group has focused on the goals of analyzing elements of established programs with a record of effectiveness, formulating principles for evaluation of implementation and outcomes, examining the opportunities for improvement of current models and exploring the potential for disseminating effective interventions to fill unmet needs of neglected sectors of the population. This Working Group is part of a larger effort of the Carnegie Council on Adolescent Development (CAD). Activities of the Council include: Task Force on Education of Young Adolescents that has issued the report Turning Points, Working Group on Life Skills Training, Working Group on Social Support Networks, Studies of Constructive Potential of the Media, New Frontiers of Research on Adolescence (preparation

of an interdisciplinary volume), and a volume (in preparation) on Adolescent Health Promotion.

The efforts of CAD are focused primarily on early adolescence as crucially formative years which present both increased vulnerability, as well as special opportunities. In its broad based efforts to widen perspectives and increase knowledge about adolescent issues, CAD has four major integrative functions: 1) Synthesizing existing knowledge; 2) Building new knowledge; 3) Stimulating youth policies; and 4) Enhancing public understanding of the adolescent years.

1) Synthesizing existing knowledge

In an area in which the statistics and research concerning adolescent development are fragmented and readily misinterpreted, the Council will attempt to clarify the facts and to explore the nature, scope, and interrelationships of adolescent problem behaviors. The Council will provide credible syntheses of knowledge that cut across disciplinary and professional boundaries, assess preventive measures and interventions that have been successful or appear promising, and point to areas in which research and innovation is needed.

2) Building new knowledge

Drawing on these syntheses, the Council will identify gaps in knowledge about adolescents and the effectiveness of supportive programs on their behalf. It will identify opportunities to generate new knowledge necessary for an informed approach to program creation and implementation.

3) Stimulating youth policies

The Council is translating knowledge about particular issues into options for public discussion and action. It will make recommendations for youth development policies and programs at all levels of government and in the voluntary sector, emphasizing the need for vigorous, responsible innovations that integrate education, health, and human services.

4) Enhancing public understanding of the adolescent years

The Council will serve as a convening body to enhance communication among diverse sectors concerned about adolescents. It will contribute to a climate of public opinion that increases attention to adolescent problems and opportunities throughout American society. The Council's findings, analyses, and

recommendations will be made available to professionals and to the public on a timely basis.

Plan of the Report

The Life Skills Working Group convened researchers, policy-makers and program developers to exchange information and to examine the goals, contents and formats of a range of life skills programs. The programs selected for study are theoretically based, carefully implemented and have an evaluation component. They also represent wide differences in content, format and locus of the intervention.

A key issue with respect to preventive interventions is the efficacy of conducting generic programs versus those which target one or more specific behaviors. Generic programs focus on general competency-building skills such as decision-making, communication skills, impulse control, problem solving, and behavioral social skills to help adolescents respond competently across a variety of social tasks. Targeted programs focus on specific domains or problem behaviors, such as use of drugs and alcohol, delinquency, early sexuality or aggressive behaviors.

For the most part, life skills approaches have been used with mainstream youth and now need to be examined for adaptations to low income and minority populations. For the latter, attention must be paid to the potential tension between the strategies and skills that have been learned as adaptive to their specific environment and the differing requirements for adaptation as functioning adults in the mainstream society.

The following specific tasks were undertaken by the Working Group:

- To understand the rationale for the content, format and timing of the intervention.
- To develop an understanding of the basic components of a range of life skills training programs, with particular attention to delineating the elements that are and are not common across all programs.
- To identify elements of programs that have been most effective for achieving specified goals during adolescence.
- To delineate the conditions and the skills required for implementation.
- To provide a framework for evaluation of the intervention outcomes.

- To explore the potential of life skills training for intervening in different populations and with different problems.
- To identify sub-populations of adolescents whose special needs would give them high priority for the introduction of life skills training programs.
- To identify the next steps in the further development and implementation of the life skills training.

The Life Skills programs selected for analysis are organized by locus of the intervention using three broad categories; school-based, community-based and those programs that link school and community. Within all three categories there are generic and targeted programs.

A section is devoted to issues of implementation and reliable replication of programs. This covers such topics as steps involved in gaining entry into a system, choosing and training the teachers or trainers, monitoring for quality of presentation and measuring the effectiveness of the implementation efforts.

The substantial problems of evaluation of intervention outcomes are discussed. The level of consensus on methods and measures for assessing life skills is appraised. This report reviews the state of the art and makes suggestions for future evaluation standards.

Finally, there is a section devoted to consideration of next steps in the field. Promising areas of new research are identified. Suggestions are given regarding the content and design of new programs in Life Skills training. Implementation of the programs, both in terms of entry into the school or community system, as well as the assurance of fidelity in presentation of the program by the teachers is described. Finally, the dissemination of proven programs is discussed.

II. EARLY ADOLESCENT DEVELOPMENT AND LIFE SKILLS

Until recently there has been a failure to recognize the importance of the early adolescent period as a transition of major importance. Coming of age in America has become such a lengthy process that adolescence now includes three distinct developmental stages. There is a span of about a decade between the entry into adolescence from childhood and the exit from adolescence to adult roles and responsibilities. Yet among the many myths about adolescence, a common distortion is to lump all adolescents together and to think in terms of "the adolescent" or "teenager" regardless of whether the person is junior high, high school, or college age. Failure to appreciate that there are distinct stages of adolescent development has imposed heavy burdens on young adolescents because the role expectations for them and popular stereotypes derive from late adolescence. As a result, for early adolescents, now defined as ages 10-14, there has been far too much emphasis on independence and a related withdrawal of parental guidance and support in a climate of pressures for "grown-up" behaviors such as smoking, drinking, sexuality. Early adolescents are still moving, erratically, in and out of the world of childhood and groping for guidelines to define their new status. There is a developmental need for adults who can be positive role models, mentors and providers of useful information.

Throughout adolescence there are the recurrent personal themes of identity, autonomy, achievement, and intimacy. There are also the tasks related to roles as family member, worker and member of the community. As young people move through the stages of adolescence, they should be able to meet the successive challenges of these tasks with ever-increasing physical and intellectual maturity and build on constructive learning experience of prior periods. In the long term, success in negotiating basic life tasks and setting patterns for adult functioning is crucially linked to the success with which the young adolescent copes with the earliest stage of adolescent development.

Developmentally, early adolescence is a time of immaturity and inexperience at a time of multiple, novel, stressful challenges. For youngsters, who enter the early adolescent period with deprivation or adverse prior experiences, the negotiation of this critical period is much more problematic. Failure to cope with the stresses of early adolescence has immediate consequences. It has become painfully clear that severe problems such as school dropout, drug abuse, alcoholism, inappropriate pregnancy, and suicide now have their initiation and show rising rates in these youngest adolescents.

In early adolescence there are three sets of new preemptive demands in major spheres of functioning (Hamburg, 1974a). First are the challenges posed by the biological changes of puberty.

The individual must cope with the undeniable impact of major change in body configuration. These changes are not only the most far-reaching of a lifetime but may be unpredictable in timing of onset or in rates of physical change. The adolescent may perceive that his or her bodily changes are too early or too late or that the emerging physique in its awkwardness or perceived imperfections will be characteristic throughout adult life. Concerns over body image are pervasive. Young adolescents have deep concerns about their physical attractiveness and often feel vulnerable to real or imagined assaults on bodily integrity. Adolescents also experience baffling changes of mood and temperament. These may result partially from direct effects of the gonadal hormones but may have repercussions in social transactions and contribute to much of the frustration and stress that is frequently reported for this age period. At the same time, young adolescents have relatively little information about the wide range of normalcy or the varying timetables or patterns of physical changes. Despite the prevalence of provocative sexual imagery, often directed at teenagers, and the explicitness of TV and movie programs, early adolescents are both ignorant and have misinformation about sexuality, sexually transmitted diseases and AIDS. They are unprepared for peer pressures regarding sex. They need to understand puberty, to learn about human biology and to be educated about important health issues and health related behaviors.

Second, there are the challenges posed by the entry into a new social system - junior high school. With this transition, the student relinquishes the former security of membership in the single stable classroom of elementary school and is faced with the task of negotiating six or seven changes of teachers and classes each day often with no dependable social support. Junior high school is a replication of high schools. It is another example of the imposing of late adolescent standards inappropriately on early adolescents. The context of junior high school is particularly ill-suited to the developmental needs of the early adolescent (Hamburg, 1974b). There are greater academic demands, but in adverse learning contexts and using teaching approaches that reduce achievement motivation. Typically there is a drop in academic performance in junior high school, shown to be related to motivation rather than to intelligence. There is uncertainty about the ability to make new friendships in this rather intimidating new school context of heightened social demands. Early adolescents developmentally lack many of the behavioral skills, social competence or strategies to meet these academic and social tasks.

The third set of challenges derives from the sudden entry into a new role status. The admission into junior high school has become a convenient marker for the conferring of adolescent status and is the badge of entry into the teen culture. In a dimly perceived way, the early adolescent urgently feels in need of a new set of behaviors, values, and reference persons. Parents also view the junior high school student as entering a new world. They

expect to treat their child differently and try to think of him or her now as an adolescent rather than a child. These days, more than ever before, young adolescents feel pressures to experiment, to adopt many new behaviors that are seen as exciting, grown-up or a passport to friendship. These pressures are partly internal. Early adolescence is typically a time of heightened exploratory and, at times, risk-taking behaviors. They also come from external sources such as peers, the influence of adult models or provocative messages from movies, music and advertising. It is a time of life unparalleled in the number and importance of decisions that will be taken over a very short period of time. Furthermore, these crucial decisions that will determine future life options, adult health status, career and family life, are largely being made under conditions of inexperience, relative ignorance, strong emotion and great uncertainty. Early adolescents urgently need help with decision-making and problem-solving.

Each of these sets of challenges is formidable in its own right, and each represents the sharpest possible discontinuity with the past. In none of these arenas can the young person draw on prior experience as a guide or as a coping resource. Additional stress is engendered by the fact that these challenges are superimposed. Thus, even for the most competent individuals, early adolescence is a period of added stress, impoverished coping skills, and consequent vulnerability. However, under the right conditions there is also the potential for much growth. For all young adolescents there is renewed opportunity to realize unfulfilled potential. Where there has been deprivation or adverse prior experience, this period offers a special opportunity for re-orientation. It is a crucial second chance and, for some, their last chance as well.

While early adolescence is indeed a difficult time developmentally, a careful review of the evidence on adolescent turmoil reveals that the extent and inevitability of adolescent turbulence have been greatly exaggerated. It is another myth of adolescence. Although it is an inherently stressful developmental period, most early adolescents do negotiate the transition without turmoil. This myth, however, provides a climate of negative expectations that heightens the normal anxieties and tensions that pervade this complex transitional period. It has contributed to the insecurity of parents and to the dread that a substantial percentage of teachers feel about having to teach youngsters in junior high or middle schools. It would be very useful to have the opportunity to educate parents and teachers about the realities of this developmental period.

Because there are no clear guidelines for early adolescent behaviors, the ambiguity of the new social role can lead even the soundest adolescent to develop feelings of being an outsider, a marginal person of questionable worth. In the face of these anxieties, many young adolescents lack self-confidence and are

unusually susceptible to outside influences and insecure about their own personal values and judgments. As a response to uncertainty, they vacillate and experiment with many roles and styles of behaving. At all times, there is a constant scanning for models and mentors from whom they can learn. Today, unfortunately, some of the most significant of these are popular entertainment figures from pop or rock music, television, radio, and movies. Typically, there are few opportunities for meaningful contact with non-parental adult figures who could serve as real world positive role models, advocates, informants and provide social support.

Many young adolescents live in single parent mother-headed homes. They may lack firm parental guidance. Without the availability of the parent as a model and to give structure and or provide coping resources, many seek peer support and adopt the badges of group conformity. Uncritical allegiance to the peer group may be useful in allaying immediate anxieties, but it has serious limitations. At best, the peer group at this stage is usually too shallow and rigid to afford the necessary resources for growth and development. When the peer group is organized around drugs or acting-out behaviors, there is potential for considerable damage.

With the growing awareness of the inadequacies and mismatch of the junior high school format as a context for early adolescents, there have been experiments with "middle" and "intermediate" schools. Unfortunately, these experiments have not created new or more conducive environments. Typically, they have simply renamed but adopted, as is, either the elementary school or the Junior high school format and transferred them to a slightly different clustering of grades. Models of truly restructured junior high schools and middle schools that succeed in creating a learning environment and positive social experience tailored for early adolescents need to be created. The Carnegie Council on Adolescent Development has recently published a report Turning Points that offers a blueprint for designing appropriate schooling for early adolescents.

Cognitive Development and Achievement

Research has shown that the teaching of Junior high school students has not been responsive to their developmental status. At a time when they are ready for more demanding intellectual challenges there is, paradoxically, often a decrease from the intellectual level of upper elementary grades and rise in rote learning. Further, the scheduling of rotating classes presents disconnected learning experiences that discourage integrative or higher order thinking.

Employers today complain that they cannot count on the schools to produce young people who can move easily into the more complex kinds of work now demanded. What employers seem to be seeking are general skills such as competent writing and oral expression, ability to learn easily on the job, the quantitative skills to allow new employees to use various tools of work and management, the ability to read complex material, to build and evaluate arguments, to write with clarity. These are all abilities that go well beyond the routinized skills of the prevalent low literacy curriculum. This, unfortunately, is the curriculum that today has most characterized the schools in urban areas of concentrated poverty.

Resnick (1986) has said "It is a new and extremely challenging notion to assume that everyone not just an elite, can become a competent thinker." The ground work for higher order thinking skills can and should be laid in the middle school/junior high school years. This can be accomplished in academic learning but it can also be an integral part of life skills training and other non-academic learning experiences. A life skills curriculum can be presented using the "discovery" method as the vehicle of learning. In doing so, higher order thinking skills are continuously developed over the course of the program. A program with urban minority youth, The Violence Project described in this report, places strong emphasis on this aspect of their intervention. Program staff feel that this component is very important for youngsters who otherwise would have virtually no experience with training in higher order thinking skills in their regular schooling.

Avenues for cognitive development through nonacademic channels need to be highlighted. There are examples of school-community linkages involving service roles for young adolescents. In planning, carrying out and examining their work experiences with mentoring adults, reasoning and analytic skills can be developed. Some examples are given in this report of such projects. In addition, young adolescents can develop a sense of self-worth through participation in needed community activities, such as tutoring, helping the elderly, working in hospitals, carrying out recycling projects, or cleaning up a neighborhood to make a play area. The potential for encouraging constructive youth participation has been sadly neglected. Properly carried out, it could enhance the desire to achieve and could link academic exercises to meaningful demands of the community and world of work. It could offer girls the chance to explore jobs and roles previously believed to be restricted to males, and vice-versa, and thus help to transcend sex-role stereotypes. It would also serve to enlarge the scope of their youngsters' experience with adults of all ages as sources of information, friendship, and support. Youth participation may be the only way to lay a foundation of positive achievement motivation for some of the youngsters who have consistent negative reinforcement for learning throughout their

school years or who may have specific learning disabilities but are quite capable of higher order thinking. The kind of participation described would also maximize the likelihood that young adolescents can begin to learn work habits and work ethics as well as develop positive expectations of future work and career choices.

Social Competence

In the new social world of early adolescence there is a heightened salience of social interactions, particularly peer relationships. It is a developmental task of this period to move from the more superficial and egocentric bases and processes of friendships in childhood to more reflective, mature and mutually collaborative relationships. As they enter early adolescence, youngsters differ in their experiences and innate skills in negotiating social relationships. Normatively, they are inept in initiating, broadening, sustaining and deepening relationships. They are hesitant, many suffer acute embarrassment and experience severe disappointments as they gain experience and mastery.

However, for some, there may be reasons of personal deficits in social abilities, temperament, or prior legacy of deprived or aberrant social experience, that will impede or prevent them from achieving the needed perspectives and interpersonal skills as they move through adolescence. These are the youngsters who are at risk of becoming overly aggressive or compliant, or withdraw in loneliness or even in painful isolation.

The social environment of the early adolescent is not facilitative for negotiating their social tasks. The context of junior high schools is one of a very large, impersonal institution with many changing sets of brief contacts with classmates. Structured after-school clubs or activities are sharply limited, if they exist at all. The "cliques" that typify this age tend to be rigid. They exclude new members and tend to limit the social scope of their "in-group". One of the most commonly expressed concerns for youngsters about to enter junior high school or middle schools is the fear that they will not be able to make friends.

It is perhaps not surprising that there is such prominence given to the teaching of social competence in life skills training programs. This training, as will be shown, has focused on awareness and labeling of feelings in self and others, and the learning of strategies and practice in interpersonal encounters. Asher calls attention to attributional biases in youngsters as a neglected aspect of social incompetence in children. Unpopular children attribute their lack of success to internal and stable causes. These perceptions of unchangeable personal inadequacy lead to low self-efficacy in this domain. He further points to the fact that when unpopular children try to gain social entry they are rejected by peers even when using the same strategies that are

effective with popular children. The implications of this line of research for interventions to enhance social competence of early adolescents need further study.

Another aspect of social competence that deserves further attention in early adolescence is the degree to which social competence is domain-specific, that is linked to a particular social context. Many minority youngsters who come from disadvantaged backgrounds have a number of social competencies that are highly adaptive for their particular sociocultural circumstances. However, some of these same competencies may be maladaptive for many mainstream situations, notably schooling or the world of work. For example, for many minority, disadvantaged adolescents, it is an important aspect of ethnic identity and pride to avoid being seen as trying to "act white" and there often are strong peer pressures to enforce this. Use of ethnic language (black English or Spanish) in preference to standard English is an important ethnic marker. Also, positive school achievement motivation may be seen as "acting white." While, in that context, adherence to the peer norms maintains group approval and personal friendships is therefore socially competent for other contexts, there are adverse long term effects on overall life skills and life options. It is a challenge to help minority disadvantaged youngsters to negotiate adolescence while preserving the best of their unique sociocultural heritage and competencies and at the same time also acquiring the competencies needed for success in the mainstream.

Decision-Making

The importance and scope of decisions to be made in early adolescence is greater than at any other developmental period. As was previously emphasized, these decisions have major effects both in the immediate situation as well as long term consequences for future adult options and functioning. Although decision-making and problem-solving are significant components of most adolescent life skills training curricula, this is an area that has been relatively neglected in the field of adolescent development research. Early adolescence is an important transition period in cognitive development. There is change from the concrete thinking of childhood to capability for formal operations and abstract thinking. With training, early adolescents are capable of sophisticated information processing for making more complex and contingent decisions.

Comprehensive life skills programs generally include either decision-making and/or problem-solving training in their curricula. The models of decision-making that are taught are based on a model that implicitly assumes that a rational procedure for appraisal of situations with review of options will result in prudent choices. In research on adult cognitions, this has been shown to be untrue

under conditions of uncertainty. Even for adults who have mature cognitive abilities and skills and substantial life experiences, decision-making has been shown to be far less rational than once believed and to have predictable, systematic biases. For early adolescents whose reasoning abilities are not yet mature and who are just beginning the process of trial and error learning in important situations, it is likely that these effects are even greater. The work of Compas, Selman and others gives strong indication that, at this developmental age period, situations are egocentrically appraised and that decisions and strategies are predominantly emotion-focused. Newer evidence thus suggests that for most early adolescents their potential for competent decision making is greater than is actually used. These considerations will have great importance in deeper understanding of how and why specific types of situations are appraised as stressful or not by early adolescents, and how these appraisals will differ systematically for differing sub-groups of adolescents. Appropriate studies, some of the research based on well-designed life skills interventions, will tell us the degree to which and in what ways developmental and experiential aspects of early adolescence influence the range of strategies or options that will actually be used by early adolescents in stressful situations or in making fateful decisions. Fischhoff is undertaking such a detailed study of adolescent decision-making under the sponsorship of the Carnegie Corporation.

Social Support

There is a persuasive body of evidence mainly from studies with adults, showing that social support is effective in preventing or in reducing the impact of high stress and in mediating some positive health outcomes. In general, these types of studies rely on adult data and have not been carried out for children. There was a study by Barrera showing, in adolescents, that stressful life events were strongly correlated with depression when support systems were weak or absent.

For children, families have been appropriately viewed as the major support system and most studies have focused on the supportiveness of the parent-child relationship. This exclusive focus on the nuclear family as social support no longer seems appropriate in the light of the changed nature of the American family. In families today, there is a preponderance of working mothers. There are large numbers and rising rates of single parent households due to divorce or never-married mothers. There have been some studies, particularly among Black families, that have examined a broader, informal network of social support as relevant to personal adjustment and health outcomes.

The Report of the President's Commission on Mental Health (1978) called attention to the potentiality of established

community institutions such as schools, churches, health care systems, justice systems, etc. for serving social support functions in addition to their stated missions. This report concluded that there was great unused potential for offering social support. Subsequent studies have shown that some community organizations have made creative and valuable responses. In particular, churches and community youth clubs have mounted a range of interventions.

In addition, there has been recognition of informal networks that have arisen to meet specialized support needs, often peer mediated, for example, single parent groups, women's health networks, bereavement groups and other self-help networks. The research on social support has been carried out in diverse fields without an integration of the separate bodies of research. As mentioned, only sparse attention has been given, in any field, to children and adolescents.

Particularly in early adolescence when pre-existing social ties are weakened by the developmental changes of adolescence in conjunction with the inhibiting context of junior high or middle school, it seems important to learn a great deal more about the networks of support that are employed by these youngsters. It can be assumed that these supports will include but not be limited to the peer group. We know that at this age there is often a perceived need for non-parental support and guidance (even when parental support is available).

Caplan (1974), in an early formulation of social support, offered a useful theoretical framework in which support systems are described as attachments between individuals or between individuals and groups that:

1. Promote emotional mastery.
2. Offer guidance about the array of relevant factors to be considered, point out predictable problems and suggest alternatives for dealing with them.
3. Provide feedback about behavior which validates identity and fosters improved competence in problem-solving.

This formulation is an excellent characterization of social support and it also makes it clear how social supports would function in meeting the kinds of needs of early adolescence as described earlier in this chapter.

Studies of social support in early adolescence will need to address issues of better and more direct measures of the kind and amount of help actually received. In the past social support has sometimes been equated simply with number and frequency of interactions. In reviewing the role of social support in health outcomes Hamburg (1978) called attention to three distinct aspects

of social support, affective (emotional) support, cognitive (information, skills and strategies) and instrumental (provision of tangible goods and services). These considerations would seem to apply equally well to the requirements of the developmental transition to early adolescence.

As mentioned earlier, the Carnegie Council on Adolescent Development formed a Working Group to explore the current status and the potential for enhancing social supports for early adolescents. This is seen as a companion piece to this report on Life Skills Training and taken together they will offer an overview of current prevention efforts and promising programs for enhancing the likelihood that healthy growth and developmental potential is achieved.

Summary

Contemporary adolescence now spans at least a decade and comprises three distinctive phases, early, middle and late. Early adolescence, ages from 10 to 15 years, is a time of drastic and superimposed changes in all spheres of functioning (biological, social, academic). As such, it is a time of maximal discontinuity with the past. Therefore, it represents the developmental period of highest stress and challenge but also a time of maximal opportunity. It is a time of heightened susceptibility to influence and there are possibilities for better or for worse, to change the developmental trajectory in ways that can be sharply different from the past.

Because of profound societal changes over the past 50 years, it cannot be assumed that early adolescents will have the requisite skills, knowledge and support to negotiate this stressful transition as successfully as possible. Where there has been prior adverse experience or deprivation such as in minority and disadvantaged populations, the outcomes are even more problematic. For all early adolescents, the high and rising rates of problem behaviors in this age group (early sexuality, substance abuse, delinquency, etc.) are indicators of unmet developmental needs.

Life skills training is conceptualized as the formal teaching of requisite skills for succeeding in a complex society. In earlier times, this teaching was done by family and community. Today, this no longer can be taken for granted. Life skills training programs for young people are designed to meet this need, largely in the schools but in community programs as well.

A number of developmentally based needs have been identified. Early adolescents frequently lack, but are strongly in need of the individual attention of adults who can serve as positive role models, mentors and can give them accurate relevant information on important topics. Because of the salience of puberty and the

issues of health-related behaviors, early adolescents need to understand the biological changes of puberty, human biology and the relationships of life style choices to immediate and long-term health outcomes. Early adolescents typically lack social competence. They need to learn interpersonal and communication skills, self-regulation and monitoring of their own responses and those of others. They need decision-making and problem solving skills. Early adolescence is a prime opportunity for teaching higher order reasoning and other cognitive skills. The learning needs reinforcement by supervised practice in daily life. It is desirable that these young people have an opportunity for community involvements. These can serve one purpose of giving a sense of role in the community and sense of purpose. It can also link schooling with the real world in ways that will give them hope for the future and a realistic motivation for school achievement. Developmentally appropriate life skills are necessary to prevent or reverse disruptive processes that can lead to adverse outcomes or behavior patterns that may be irreversible in adult life.

Beyond peer groups, cliques, clubs and gangs there is little systematic knowledge about social support networks for young adolescents. Life skills programs have an inherent social support component. However, much more needs to be known about existing informal structures. Perhaps more importantly, we can gain clues as to how to bolster our young adolescents by putting strategic supports in place. A companion report is addressing the issue of social supports.

III. LIFE SKILLS TRAINING - CORE ELEMENTS

Life skills training is conceptualized as the formal teaching of the requisite skills for surviving, living with others and succeeding in a complex society. This definition is broadly applicable across a wide range of age groupings and sociocultural contexts. As used in this report, the requisite skills are formulated in reference to developmental tasks of early adolescence. These tasks, in turn, are seen as reflecting the demands and challenges that are posed by the interaction of biological and sociocultural factors that coincide during this developmental period in such a way as to cause a sharp discontinuity with the past. In other words, the tasks and challenges are very new and previous guidelines and strategies of childhood do not readily apply. For reasons discussed in the prior chapter, for the early adolescent period there are no clear guidelines available to either the youngsters or the significant adults around them, to provide useful guidance at a time when behaviors and choices are more crucial than at earlier times in their lives and when their decisions could have serious implications for their future life options and health outcomes.

In earlier times behaviors and choices were less complex because the guidelines for behavior were clear-cut and were consistently supported by group norms. The life skills training (socialization of children and youth) occurred in a context of clear and consistent rules, traditions and values and was carried out congruently by family, neighbors and church. Children and adolescents lived and learned in a small cohesive social setting and self-contained sphere of influence.

Schools had a negligible influence on those adolescents. At the turn of the century, at most only 10 percent of adolescents attended school. For those who did, there was considerable emphasis placed on moral education, values and preparation for citizenship in addition to the academic curriculum. It was not until 1960 that all of the states had adopted compulsory school attendance until at least 16 years of age. Since that time, in the latter half of this century, schools have come to occupy a predominant role in the social life as well as the academic life of adolescents. In fact, for early adolescents entry into junior high school has effectively become a rite of passage to define the transition from childhood to adolescence. In large urban schools adolescents associated closely with students who come from backgrounds that are often very different from their own and who represent new perspectives and values. Modern American adolescents grow up in a far larger and more diverse social world than youth in earlier times or even in other parts of the contemporary world.

Since 1950, a new informal source of socialization and education has emerged, television. TV's are in most homes in the United States regardless of income level. In contrast to other nations who operate TV only limited hours per day, our TV stations run programs continuously. Most children and adolescents watch programs without supervision or guidance for interpreting what they experience. TV conveys its messages with great power and immediacy regardless of the age or degree of literacy of the viewer. All media taken together, TV, radio, VCR, magazines and comic books, represent highly significant sources of perceptions, information, models and values for many adolescents. Many of their messages are directed at the adolescents as consumers. In TV programming, there are also multiple intended and unintended messages to adolescents that are sexually provocative, encourage smoking and drinking and provide much observational learning of violence and risky behavior. At the same time, there has been little attention paid to media potentials for messages directed to adolescents to promote physical health or to enhance pro-social attitudes and behaviors.

Given the societal changes that have weakened the traditional role of the family and community in educating for life skills, systematic efforts are emerging to provide formal life skills training. For many reasons schools have seemed to be the logical locus to reach youngsters with this training although there are opportunities in community agencies as well.

Social competence is a concept that has heavily influenced life skills training programs. It has been an important study area in the field of normal child and adolescent development. It has also become a popular construct that is very broadly defined and applied. Social incompetence has been invoked as an important factor associated with such diverse areas as major mental illness, some behavioral disorders in children, academic disorders, adult social anxiety, and the set of adolescent problems that include precocious sexuality, delinquency and drug abuse. Social competence, on the other hand, is widely viewed as a key component in achieving socially valued outcomes. There is a large and expanding literature on social competence that is beyond the scope of this report.

The definition of social competence that seems to have most relevance for life skills training emphasizes two major aspects. First, an analysis of the life tasks that are most relevant for the individual and second, an analysis of the social skills (behaviors) that are judged to be most effective in accomplishing the tasks. These judgments of task success are sometimes discussed in terms of adherence to social norms, at other times in terms of achieving specified results.

For young adolescents three areas of social competence training can be discerned. Heavy emphasis is placed on social transactions including effectiveness in entry into social situations, ability to maintain satisfying personal and work

relationships and ability to resolve interpersonal problems so that there is mutual satisfaction in the encounter along with preservation of valued goals. A second significant area concerns the ability to improvise effective plans of action in conflicted or disrupted situations. A third training goal relates to the ability to reduce stress and contain anxiety within manageable limits.

The mediating factors that are seen to play significant roles and to be susceptible to enhancement through appropriate life skills training are motivation, knowledge base and the learning of strategies and skills.

In working towards the goals of enhancing social competence, there have been a few key bodies of research that have been a rich source of concepts and elements of program design for life skills training programs. Some of these will be briefly sketched.

Motivation will determine whether or not youngsters will pay attention and put forth persistent effort to acquire knowledge, to actively attempt to master skills that are well within their abilities or try to attain goals that they value. The work of Robert White suggests that "Effectance Motivation" represents a basic human tendency to master the environment and as such is readily mobilized under appropriate conditions. Social learning theory of Bandura has had a very pervasive impact in the life skills training field. It both explains and operationalizes important aspects of motivation. In essence, he points to the salience of observation, imitation and practice as the fundamentals of learning. In his theory of learning from modelled behavior there are four components: attention, retention, enactment of the behavior and motivation. His research shows that attributes of the person serving as model affect the motivation of the learner to pay attention, to select what will be remembered and influence the willingness of the youngster to enact the behavior. Children pay greater attention to same sex models, to individuals whom they like and respect, to those who are popular, have leadership roles or powerful status. In life skills training, these kinds of considerations have influenced teaching methods as well as heavy use of suitable peers as models and teachers. His theory and research also give clues as to ways of enhancing motivation. He has shown the centrality of personal perceptions of self-efficacy in motivation and related behaviors. Self-efficacy is a personal judgment of the likelihood of success in accomplishing a given task. Low expectation, is associated with low self-efficacy and together they are associated with reduced or absent motivation. The reverse is true for high self-efficacy persons. They have high expectations and are highly motivated to attempt difficult tasks and to persist until they achieve the desired result. Bandura has focused his recent research on methods for increasing self-efficacy. He has given useful information about feedback information that individuals use in making self-efficacy judgments

and the role of such factors as graded tasks, verbal persuasion, and peer modeling as ways of enhancing self-efficacy and, in turn, affecting motivation.

Knowledge base requirements for social competence training have been influenced by a developmental perspective. As issues become developmentally relevant, there is heightened interest and receptiveness for learning in those areas. For example, with the drastic bodily changes of puberty that focus adolescent interest on the body image and body integrity, knowledge about human biology and health issues become salient. There are also developmental considerations that underlie adolescent needs for and receptiveness to knowledge about communication skills and interpersonal negotiations.

The socio-environmental context also sets an agenda for knowledge base. For example, knowledge regarding issues surrounding adolescent problem behavior has long been a large part of adolescent life skills program. However, what can be considered core elements can change as new highly important issues arise. AIDS and crack cocaine have become prominent as problem areas.

At present, the knowledge core that many feel is appropriate for early adolescents includes human biology, legal rights and responsibilities, principles of health promotion and fitness, information on adolescent problems such as substance use, sexuality, school failure, AIDS and sexually transmitted diseases, and knowledge of community resources. This knowledge core reflects the focus of most life skills training programs on health promotion and prevention of adolescent problem behavior.

Social skills possessed by individuals vary predictably in relation to developmental level but they also vary widely within age groups as well. These skills in communication, ability to listen, to "read" the body language and intentions of others, to self-regulate, to empathize, greatly affect the capacity to build and maintain stable, rewarding relationships. Beyond social skills, social environment also influences social behavior and social acceptance. In one context, what is a source of high social status may be an impediment in another. For example, school achievement is usually highly valued in middle class schools but often disparaged in ghetto schools. High levels of aggressive response may be expected in one context but not tolerated in another.

There are two overlapping goals for social skills training. On the one hand, there is a need to teach the developmentally appropriate social skills that apply broadly over most situations. This requires a generic approach. There seems to be a consensus that those skills should be part of life skills programs. At the same time, there are situation (context) specific skills that have high relevance for program targets of special concern such as

preventing problem behaviors. The same applies for other life skills programs that may focus on the specific skills needed for life tasks such as job skills or community activities. When careful evaluations have been done, there has been a consistent finding that targeted goals are best achieved when specific information and skills are taught. Programs increasingly tend to include both generic and specific skills in their curricula.

Social skills training (Rotheram, 1982) methods have been strongly influenced by the Cognitive Behavioral model of Bandura (1986) in the aspects that pertain to self-efficacy. There is emphasis on use of influential models, frequent rewards for desired behaviors, negotiable tasks presented in successive approximations and directed practice.

"Assertiveness" training has become a prominent aspect of social skills training. It is probably not well named because it may imply a level of aggressiveness that is not intended. It generally refers to modulation of responses to an appropriate level for effectiveness in active pursuit of one's needs while recognizing needs and feelings of others. At times, this requires reducing of the level of an overly aggressive response. At other times, it may refer to increasing the intensity of a very weak, passive reaction that may be maladaptive in terms of exploitation or extreme compliance. There is an aspect that refers to initiative and energy in seeking resources and opportunity. Role playing is a prominent technique in this training. These techniques have a prominent role in teaching resistance to peer pressure for smoking, substance use and sexuality.

Cognitive Skills

An emerging trend in the teaching of social skills is the focus on using the methods and techniques of teaching to develop higher order reasoning and critical thinking skills. Spivack and Shure introduced a question and answer interaction technique called "dialoguing" in which the responses and guides to behavior are elicited from the child. Further, the child is always encouraged to think of several possible options and not believe that there will be only one answer. This emphasis on higher order thinking is coming to pervade all aspects of the social competence programs including the teaching of the knowledge base. There is increasing use of discovery methods and cooperative learning.

Decision-Making

The Spivack and Shure Interpersonal Cognitive Problem Solving training (1974, 1982) was also an early forerunner of what has come to be a strong focus on decision-making skills. Most current life skills programs have a decision-making component. In the current

versions, the decision-making skills are seen as a number of sub-tasks that need to be learned and performed in a sequence. These are detailed in some program descriptions that follow.

Evaluation of the decision-making aspects of life skills training has been less well-developed. In particular is a need for more adequate measures. This area may also benefit from drawing on some new conceptual bases. Adolescent decision-making is not well understood. Extrapolating from research on adult cognition, some believe that the decision-making processes of adolescents may be heavily influenced by emotional responses and situational constraints that make their decisions in actual situations different from those predicted by more abstract principles. There are studies underway to investigate adolescent decision-making in terms of some of the systematic biases seen for adult decisions under conditions of uncertainty and competing valued goals. It is an aspect of life skills that has crucial importance and deserves urgent attention on the research agenda.

High Risk Adolescents

Programs in life skills training are increasingly being directed toward urban minority youngsters who are seen as being at high risk for adverse outcomes. Many disadvantaged youth have experienced difficulties in taking full advantage of educational, job training and employment opportunities because they lack the social strategies and life skills for mastering the interrelated psychological and social skills that are necessary for success in these tasks. A great many of these adolescents come from social environments that over the course of their lifetimes have been disorganized, lacking in dependable family, school and community resources. Therefore, unlike most mainstream adolescents, these young people lack familiarity with the most basic skills, strategies and knowledge of resources that are required preparation for living and succeeding in mainstream. These deficiencies frequently become the basis for highly emotional responses to the frustrations of finding themselves unequal to a life task. As this frustration mounts over time, it may lead to shame, guilt, apathy, anger, aggressive acting out or feelings of alienation. There is evidence, however, that when appropriate knowledge and life skills were provided and the seemingly overwhelming tasks were disaggregated with negotiable sub-units, there was a supplanting of those negative emotions with positive attitudes and persistence in attack on new problems (Adkins, 1970).

These basic problems are the same for adolescents, both young and old. Adkins was one of the pioneers in working with of disadvantaged youth. He worked primarily with late adolescents in job training programs. However, the same principles apply and there are clear advantages to providing appropriate life skills training to early adolescents before self-defeating attitudes and behaviors are solidly entrenched.

Several specific patterns were identified for intervention in a life skills program for disadvantaged youth. There was need for structured, problem-focused sessions with prepared materials and exercises. In initial encounters, Adkins found the young people to lack basic skills for engaging in a focused, goal directed discussion. When presented with a topic for consideration, free discussion quickly becomes disorganized and attention as a group was not sustained.

There was need to build a general and specific knowledge base. The group members had much shared ignorance. Access to new knowledge had to come from the leader and program resource materials. Group members could not be relied on to pool information and act as resources for each other.

A common basis for interaction must be established. When there were sociocultural differences of teacher and group members, words and concepts very often had no common meaning. There was literally a need to learn to talk each others language.

Peer influence was very high and could be utilized for peer teaching and cooperative learning.

Ability to handle stress was poor. Self-regulation was not well developed.

Students responded very positively when they were listened to and respected.

These findings delineated by Adkins have been confirmed by others who have worked with the same groups. In addition, they have highlighted the importance of continuing emphasis on preserving and constructively enhancing ethnic pride and ethnic identity. This report describes a number of programs specifically designed for disadvantaged minority youth. A few of these can be highlighted:

The Salvation Army Program, Bridging the Gap, is specifically designed for high risk urban youth who live in areas of concentrated poverty. In addition to social competency, health and behavior, and use of community resources, this program focuses on familiarity with systems that affect rights and responsibilities as citizens, voting, taxes, legal rights and responsibilities, justice systems and personal involvement in community affairs.

Another special emphasis group has been adolescent girls. The Girls Clubs have taken a lead role in designing skill-oriented programs for girls and young women, ages 6-18. They have targeted minority girls for whom expanded views of career choices and life options need to be provided. They also promote girls' interests in sports, math and science and health enhancing behaviors.

The Violence Project is also directed at high risk inner city youth. Using many of the same principles described by Adkins, a curriculum to reduce violence and learn alternatives for conflict resolution was developed as part of a comprehensive program. This is a primary prevention project that includes school, community, health system and media components.

New Directions

There are emerging efforts to design programs that have included life skills training as part of much broader and more ambitious change efforts. Two examples are described in which there is radical restructuring of the school (Comer). Another example targeted at minority, disadvantaged youth, describes a very broad-based, school, community, media linkage in a campaign for changing community norms as well as providing life skills training to promote its health prevention goals for adolescents (Schinke).

Finally, an important emerging trend for all life skills training programs has been to build parent participation into the curricular activities. Parents have been involved at all points of the process. They are often informed of the program goals and methods prior to implementation of the program, involved in activities and "homework" during the course of the program and asked for evaluation comments when the program is completed.

Summary

Successful social competence and life skills training programs have much in common. They share similar conceptual bases and employ many of the same structures and educational strategies. As a result, they show much similarity in core program elements. These can be characterized as follows:

Developmental Needs. These elements pertain to all early adolescents and involve generic social competence training. It includes communication skills, self-regulation, pro-social behaviors, problem-solving and decision-making. A developmentally appropriate knowledge base includes human biology, especially changes of puberty, principles of health promotion and knowledge about tobacco, alcohol, drugs and sexuality.

Health Promotion and Problem Prevention. These program elements include health education in the areas of specific focus, training in specific skills and strategies in the area of special focus. Assertiveness training and resistance to peer pressure is prominent.

High Risk Groups. Much of the training for this group replicates that for mainstream youngsters. Some aspects are distinctive such as, an emphasis on ethnic identity and pride, learning to be organized and task oriented, some programs focus on health issues that have special relevance for the special group - for example hypertension or violence among black youth.

Life skills programs have been shown to be effective when they are soundly designed and well-implemented. Comprehensive programs have been shown to be more effective than those that have more limited core elements. Involvement of parents and community persons and agencies also appears to enhance effectiveness of programs.

There is a growing consensus that societal changes have weakened the traditional role of family and community in educating children and adolescents for life skills. For a sizeable sector of children and youth in America the lack of opportunity to dependably acquire necessary social competence and life skills puts them at risk of failure to achieve many valued health and social outcomes as they grow and develop and diminishes their life options. Schools and youth-serving agencies have show an encouraging receptiveness to the implementation of life skills programs.

IV. SCHOOL-BASED INTERVENTIONS

Introduction

Schools are compulsory institutions that have sustained, daily contact with most children over a thirteen-year period during formative years of development. Under the right circumstances, curriculum-based activities may be introduced and environments created for children to learn, practice, and receive feedback about life skills and social competence. To maximize the positive effects of such efforts, it is critical that parents, teachers, and other school personnel support and reinforce such training efforts.

The primary objectives of school-based social competence or life skills training programs are to foster students' self-esteem and enhance their overall behavioral effectiveness in family, peer, school, leisure and work. It is possible to achieve goals of health promotion, preventing or reducing substance abuse or problem behaviors as well as facilitate adoption of positive health behaviors.

School systems traditionally have not taken responsibility for directly promoting social competence or life skills through formal systematic curricula. Furthermore, school personnel do not necessarily have the training and resources to design such programs. As a result, they must rely on the proponents of such activities to develop programs that clearly articulate the objectives, lay out instructional models and methods for implementation, and offer credible criteria for the evaluation of program impact. Over the years there has generally been receptiveness by many schools to a variety of intervention programs and considerable experience has been accumulated.

Background

An early school-based Social Competence Program (SCP) model, and one still in widespread current use for young children is the person-centered competence-enhancement approach. This model, exemplified by the interpersonal cognitive problem-solving (ICPS) program designed by Spivack and Shure (1974) was addressed to disadvantaged, inner city children. It is based on a conceptual model of deficits of specific cognitive and personal skills as the underlying cause of social incompetence. Although less explicitly formulated, there is also the theory that the deficits should be remedied during a critical early childhood period around or before the time of school entry. The curriculum teaches inner city pre-school and kindergarten children skills for recognizing feelings, defining problems, generating alternative solutions, and anticipating consequences of behavior choices. They reported that ICPS-trained children gained the desired problem-solving skills and

suggested that this led to improvements in behavior. However, replications and recent reviews of person-centered SCP programs have cast some doubts about the extent of actual behavioral change and the durability of effects.

There have been efforts to design a "second generation" of SCP programs to strengthen impact and to assure long-term effects. These new approaches reject exclusive reliance on the deficit model of maladaptive behavioral development that guided the first generation of programs. Instead, they adopt a multifactorial, developmental approach. The multiple factors seen as having powerful interactive impacts are: individual predispositions, social environmental and sociocultural factors (e.g., peers, family, community, media); current levels of stressors and supports, and prevailing life circumstances and opportunity structures.

The conceptual framework that has guided the design of recently developed social competence training programs is not only broader in its theoretical base but also places strong emphasis on issues of methodology and implementation. The key elements of these second generation programs have been summarized by Weissberg as program conceptualization, design, implementation, evaluation and diffusion. They are formulated by him as follows:

Program conceptualization - Clear program goals must be articulated. In this process it is important to use theory, research findings, and prior intervention experience. Identify both student learning objectives (e.g., skills, activities and knowledge) and environmental supports that should be addressed to promote students' social competence. Program design - Translate conceptual models of intervention into developmentally and culturally appropriate curricula. Develop associated teaching materials. Clearly operationalize guidelines for implementation. Developing a structured training manual is necessary but does not ensure that a program will be properly or effectively implemented. Program implementation - Adapt a curriculum to suit the specific needs and characteristics of teachers and students as socio-environmental realities of the system in which a program is conducted. It is important to provide high-quality teacher-training to assure fidelity to the intervention model. A critical aspect of implementation involves the establishment of system-level supports and policies to maintain the high quality of program implementation throughout future years. Evaluation Use of valid, reliable research approaches to assess: the extent and quality of program implementation, intervention effects on students' skills and behavior, analyze for the impact of individual level and systems factors, singly and in combinations that contribute to gains in children's social competence. Produce transportable program materials, clearly articulated replication guidelines, and provide a system of supports for new schools that choose to implement a program.

An additional new emphasis in second generation programs is an advocacy for on-going, multi-year interventions. In part, this reflects a view that social competence training should be an incremental, continuing process. However, it has also been suggested (Elias) there is a potential value in buffering children who, in the current societal climate, may experience stressful, non-normative events such as divorce or separations, family deaths, traumatic experiences, or accidents. Minority disadvantaged children are at particularly high risk for such adverse happenings.

The remainder of this section describes examples of social competence and life skills training programs in a variety of school settings as well as some linked school/community interventions.

A. Interpersonal Problem-Solving

The Improving Social Awareness-Social Problem Solving Project

In 1979 the Improving Social Awareness-Social Problem Solving (ISA-SPS) Project began in Middlesex Borough, New Jersey. Maurice Elias and his colleagues in collaboration with teachers, administrators, and parents have developed a curriculum-based approach to provide children with a solid foundation in social-decision-making and problem-solving skills (Elias et al., 1986). The program is self-contained, and materials and procedures are provided to allow its use from kindergarten to grades 4, 5, and 6, or for children in any single grade or combination of grades within that range.

The ISA-SPS Project emphasizes the importance of providing intensive problem-solving and decision-making instruction to elementary-school age children to help them cope with the difficult transition to middle school. They assert that children will best negotiate this transition if they come to it with adequate prior preparation which includes a solid foundation of competencies and coping skills. They also address the special needs of urban disadvantaged elementary school children with programming designed to help them towards optimism about future options and set them on the pathway to a responsible, productive life.

Conceptualization. The project builds on the work of Dewey, Piaget, and Spivack and Shure and is based on the following key tenets: (a) the coping skills of students can be effectively improved by teaching them an ordered sequence of skills; (b) children will benefit from concrete practice in resolving real-life decision-making situations; (c) generic cognitive skills training is needed as a base for problem-solving and decision-making skills to be applied to a broad range of classroom and real-life situations; (d) it is critical to build in activities--involving teachers, parents, and educational administrators--to aid

maintenance and generalization of program concepts; and (e) the program must be able to be used comfortably and confidently by educators and parents.

Design. The ISA-SPS Program focuses in the areas of self-awareness, interpersonal skills, and social decision making. Based on an extensive review of the literature, the investigators identified the following skills as critical to effective coping: (a) the self-control and social-awareness skills; (b) a belief in self-efficacy; (c) the capacity to look for and understand the signs of one's own and other's feelings; (d) the ability to generate a variety of goal-directed solutions and anticipate their consequences; and (e) the capacity to develop realistic plans to carry out adaptive solutions effectively and to integrate past experience to inform future action. Experience has shown that these skills are best taught through a series of highly engaging lessons and activities coupled with multiple practice opportunities and homework assignments. The curriculum comprises three phases: a readiness phase, and instructional phase, and an application phase.

The Readiness Phase emphasizes the importance of self-control, listening and communication, and being an involved responsive group member. Specifically, the lessons focus on teaching students to: listen carefully and accurately; follow directions; concentrate and follow through on tasks; keep calm or calm down when upset; carry on a conversation without upsetting or provoking others; share feelings and tasks as part of a group, team, or class; accept praise or approval; choose praiseworthy and caring friends; know when he or she needs help; and ask for help when it is needed. All these skill areas and lesson approaches have been teacher identified, field tested and seen as valuable for building children's social skills and helping them be more receptive to subsequent lessons in problem solving.

The Instructional Phase teaches an 8-step social problem-solving framework including: look for signs of emotion and identify feelings in self and others; tell yourself what the problem is; decide on your goal; stop and think of as many solutions to the problem as you can; for each solution, think of all the things that might happen next; choose your best solution; plan it and rethink it; and try it and rethink it.

The Application Phase emphasizes ways for students to transfer classroom-learned problem-solving skills to the real world. This is accomplished by training teachers to: use facilitative questioning; employ indirect hypothetical examples and to move gradually into real-life issues; accept and acknowledge what they hear; role plays of one's thinking and self-statements when faced with a problem; and prompt, encourage and share the use of social decision making in everyday situations.

Implementation. The intervention uses a 20-lesson curriculum as the program core but also extends program goals to creation of a supportive environment within the school setting. For the curriculum, teachers are the primary training agents. However, school psychologists, social workers, guidance counselors, and administrators are also trained to provide ongoing consultation and feedback to teachers and to encourage the children to use their problem-solving skills in everyday situations.

The ISA-SPS team has developed an elaborate set of procedures for: (a) training teachers, (b) providing administrative consultation, (c) maintaining controlled, high-fidelity innovation diffusion and resource-exchange network among users, (d) developing adaptations of curriculum procedures for use with special populations, and (e) providing parents with information and training. The provision of appropriate training and follow-up consultations by program staff is considered critical for effective implementation.

Evaluation. The ISA-SPS project has been carefully evaluated over the course of many years (Elias, 1985; Elias et al., 1986). Children who receive the curriculum, relative to comparable controls, have demonstrated: (a) greater sensitivity to other's feelings, (b) greater understanding of behavioral "consequences", (c) increased ability to analyze and understand interpersonal situations and plan appropriate actions, and (d) a more positive self-concept. Furthermore, they have been judged by their teachers as better adjusted, and their peers tend to seek them out more frequently for help with problems. Most critically, students seem to be aided in handling their difficult transition to middle school. Whether or not children were trained, and how much training they had, significantly discriminated their response to stressors upon entry into middle school. In addition, the curriculum was enjoyed by children and teachers, is valued by administrators, and the children reporting using what they learned during school-based lessons in situations outside of the classroom.

Innovation Diffusion. Since 1979, other schools from districts in New Jersey, Illinois, Massachusetts, Minnesota, New York, Pennsylvania, Virginia, Washington and in the United Kingdom have adopted this approach. In the process of dissemination, more sophisticated and efficient service delivery systems have evolved and the program was adapted to a greater diversity of school and community ecologies. The program was modified to enhance compatibility with local and statewide educational mandates (e.g., for family life education and substance abuse prevention). Networking with a growing cadre of service providers, consumers, policy makers, child advocates, and staff from child-serving agencies have enhanced further the program's reputation and generated increased demand for innovation dissemination. The most recent development toward dissemination consists of a permanent

service delivery unit within a major state medical university, affording a viable base for ongoing SCP activities.

B. Social Competence Training

The Yale-New Haven Social Competence Promotion Program

Since 1983 Roger Weissberg and his colleagues from the Yale University Psychology Department have collaborated with New Haven school personnel to establish a comprehensive SCP program for middle-school students. While supportive of the position that structured, continuous SCP training should run from pre-school through high school, Weissberg's team has focused on establishing a multi-year training at the middle-school level. Given that early adolescence is a stressful developmental period and that middle-school environments may add to that stress, they believe that it is essential to provide competence training and supports to help students address the current social tasks and pressures that are confronted as they advance through middle school.

The focus of the Yale-New Haven Social Competence Promotion (Y/NH-SCP) Program has evolved and expanded over the years. Initially, Weissberg and colleagues designed a single exposure, 17-unit generic middle-school SCP program that emphasized the teaching of five core competencies including self-control, stress-management, problem-solving, decision-making, and communication skills. Next, they conducted a two-year SCP effort in which students received training during sixth and seventh grade. They also extended their work by designing and implementing a 20-unit SCP program targeted specifically on substance use prevention. The most recent version of the Y/NH-SCP project involves training teachers to implement a longer curriculum, focusing on multiple outcomes, that teaches a generic SCP framework followed by targeted modules emphasizing the prevention of substance use, teen pregnancy, and AIDS. In addition, the New Haven school system is coordinating the implementation of this program with Comer's (described in Chapter VI) School Planning and Management Team organizational approach in order to maximize the benefits of both intervention models on students' behavior.

Conceptualization. Weissberg's program emphasizes three critical conditions for the development of socially competent behavior in children: (a) they must have the cognitive, affective, and behavioral skills to succeed in a social setting; (b) they must have multiple opportunities for meaningful positive involvements to use these skills; and (c) those with whom they interact must consistently reinforce competent behavioral performance. Following this framework, the program seeks to enhance the capacities of young adolescents to coordinate cognition, affect, and behavior to handle relevant social tasks and to create classroom settings and

social supports that promote students' adaptive behavior and positive developmental outcomes.

The structure and content of the general curriculum are guided by the theoretical and empirical work of several investigators in the field of social competence (Dodge, 1986; Elias, 1987; Rubin & Krasnor, 1986; Spivack & Shure, 1982). As Weissberg and his colleagues have designed specific modules to prevent substance use, teenage pregnancy, and AIDS, they have been influenced by a skills training framework elaborated by Rotheram (1982). The modules begin by reviewing a 6-step social information processing framework that can be applied to a variety of problems or stressors. Next, teachers focus on a specific domain (e.g., substance use, AIDS) providing accurate information about the topic, and then focusing on realistic situations, generated by students, to which the social information processing framework can be applied. Finally, the modules identify school, family, and community resources that are available to help or support students cope with personal or family difficulties in the domain being emphasized.

Design. The core of the general SCP program is a 17-lesson curriculum, The Yale-Haven Social Problem-Solving Program for Young Adolescents (Weissberg et al., 1988). Role play, video and live modeling, didactic presentations, small group discussion, and competitive and cooperative games serve as the main instructional methods used to help students learn program concepts and apply them to cope adaptively with real-life stressors and social tasks. Based on years of piloting and revising classroom activities, the program objectives have been refined into culturally and developmentally appropriate lesson plans, that are interesting and have been found to be beneficial to students.

The program begins by teaching students to identify situations in their own lives that cause stress and to recognize their physical and emotional reactions to them. Students are then instructed in adaptive means of coping with these stressful life events, with an emphasis on relaxation and self-instructional training. A six-step social information processing framework is taught: (a) stop, calm down, and think before you act; (b) say the problem and how you feel; (c) set a positive goal; (d) think of lots of solutions; (e) think ahead to the consequences; and (f) go ahead and try the best plan.

Several developmental features of this age period have influenced the selection and specific wording of the steps. Given that self-control is of critical importance during early adolescence, the model emphasizes the importance of stopping to calm down before beginning the cognitive process of problem solving. Second, since some young adolescents may be prone to set negative, unhealthy, or anti-social goals, the use of the adjective positive in conjunction with goal is intended to serve as a prompt

for pro-social values. Third, based on the importance of beliefs in competent responding to social tasks the teaching of consequential thinking emphasizes evaluation of one's beliefs regarding the legitimacy of certain behaviors (e.g., aggression) and its effects on others. Finally, the model focuses on step-by-step planning, the anticipation of obstacles, and persistence, all of which serve to promote means-end thinking, an important component of social competence during adolescence. The final phase of the program emphasizes the behavioral skills needed to respond competently to social tasks such as cooperative behavior and communication skills.

The social tasks in the general SCP curriculum are selected from a list of frequently experienced stressful problems and social tasks reported by a sample of inner-city young adolescents. These include situations such as: coping with physical and verbal aggression, being blamed for something one did not do, meeting new peers, establishing more intimate relationships with same and opposite-gender peers, and responding to teacher and parent expectations. Program teachers and students select the most relevant situations from this list and may also generate new ones.

Classroom lessons represent only one component of the program. Teachers also model adaptive ways to handle problems and stresses and use the six-step processing framework to "dialogue" with students to prompt and reinforce competent applications of problem solving. As with the Elias program, training is also given to other school personnel (e.g., non-program teachers, principals, guidance counselors, in-house suspension staff) so that they may support and expand on the SCP lessons taught by teachers in the classroom. In this way, a school climate, conducive to the promotion of children's social competence, is created.

Implementation. In the current teacher-training model, classroom teachers participate in a 5-day summer workshop in which lessons are modeled, discussed, and practiced. These meetings are conducted by a team of staff members from Yale's Department of Psychology and several "Master Teachers" from the New Haven school system (i.e., teachers with special competence who have taught the program to their students in previous years). Once the classroom lessons begin, there are five 2-hour follow-up training sessions during which teachers review program lessons and concepts, practice SCP modeling and dialoguing techniques, talk about their students' reactions to lessons, and discuss ways to adapt lessons to the special needs of their students. On-site coaching throughout classroom training represents another important aspect of program implementation. Program staff and master teachers visit each classroom several times and work with teachers who are conducting actual lessons with their students. The coaches offers support to implementing teachers and also provides corrective feedback, as necessary. In addition, the program staff monitors the integrity

of classroom training efforts and insure that learning objectives are being met.

Identifying the appropriate place in the curriculum of a departmentalized middle school to provide life skills training requires considerable planning. Program staff works actively with School Planning and Management Teams to develop the best approach for successful implementation at each individual school (Comer, 1988). In addition, the School Planning and Management Team ensures that concepts being taught in life skills classes are reinforced through school- and community-level activities, especially those involving parents.

A current challenge of school-based SCP programming involves the coordination of the plethora of prevention programs that schools are attempting to implement (e.g., substance use, AIDS, teen pregnancy, dropout, delinquency, truancy, physical injury, violence, etc.). New Haven is in the process of appointing a District Supervisor of Social Development to oversee the coordination of these program initiatives. There is a long-range plan to create a kindergarten through high-school Social Development Program that will integrate instruction in generic skills as well as specific modules. Throughout, a developmental perspective will serve as a framework for curriculum decisions.

Evaluation. A comprehensive program evaluation has been conducted to assess the effects of SCP training on young adolescents' problem-solving skills, social relations with peers, behavioral adjustment, and minor delinquent acts. Relative to untrained control students, students demonstrated improvements in their ability to plan ahead and choose effective solutions to problem situations that they face. Involvement with peers, as measured by self-report and teacher ratings, increased as a function of the program. Teacher ratings of student adjustment also indicated gains in impulse control, sociability with peers, and academic performance. Positive program effects were also noted in the frequency of self-reported misbehavior (e.g., starting fights, getting sent out of the classroom, stealing), suggesting that the SPS program may have preventive impact on minor delinquency. Weissberg and Caplan have also evaluated the effects of providing a 12-unit booster program to a sample of seventh-grade students who had received SPS training during sixth grade. They found that students who participated in two years of training showed significant gains, relative to students receiving no training, in their problem-solving skills and teachers ratings of academic, social and behavioral adjustment. This lends support to the provision of ongoing systematic training as students for booster effects and to deal with challenges associated with each new school year.

In evaluations of their generic SCP program, Weissberg and Caplan found that training did not significantly affect the

substance use habits of children. In contrast, an evaluation of SCP training geared specifically towards the prevention of substance use yielded more positive findings. Specifically, an outcome study with 238 6th- and 7th-grade students receiving the program, relative to controls, improved their strategies for resisting peer pressure and coping with stress, developed more negative attitudes about substance use, and were less likely to consume excessive amounts of alcohol. This supports the view that domain-specific training may be required to influence the behavior of students in specific domains.

Innovation Diffusion. Based on the positive outcome findings with pilot samples, as well as the favorable reactions of students, teachers, administrators, and parents to the experimental program, a 35-unit program -- focusing on general social competence promotion and the prevention of substance use, teenage pregnancy, and AIDS -- is being conducted system-wide with approximately 1,300 New Haven sixth graders during the 1989-90 school year. Thus, every regular-education, bilingual-education, and special-education student will receive SCP instruction in a required Life Skills Course.

The general SCP program is also being disseminated to other Connecticut school districts. In 1987, Connecticut's Juvenile Justice Advisory Commission identified the Y/NH-SCP program as a promising practice to promote positive youth development and prevent delinquent behavior. Following a state conference in which the program was showcased, interested school districts were invited to apply for technical assistance funds from the State to help them to implement the program. At this point, training has been conducted with teaching staffs from several school districts who have adopted the program.

In summary, classroom-based SCP represents a promising approach to promoting adaptive behavior and preventing problem behaviors in early adolescence when provided to older elementary school students or in middle school. The findings that many SCP programs while effective short term do not successfully promote long-term, enduring changes in adjustment suggests that providing multi-year training offers greater promise for maximal preventive impact both in terms of duration and strength of effects.

These projects also offer instructive leads about new directions for SCP program developers. Combining generic and domain-specific SCP programming seems to be a promising course in view of the finding of limited success of generic approaches for specific task or problem areas.

The projects described in this section all emphasize the importance of fidelity of implementation. Choice of teachers, teacher preparation and on-site monitoring are important elements.

Finally, SCP program developers are increasingly aware that comprehensive intervention efforts are required to exert maximal program impact. A promising step has been taken by Weissberg in the integration of the social competence training program into a restructured school designed to provide a climate conducive to student growth and development.

C. Drug and Alcohol Project

Life Skills Training and Substance Abuse Prevention

Toward the end of 1977 and the beginning of 1978, Gilbert Botvin developed a school-based prevention program called Life Skills Training (LST). The LST program was initially designed for junior high school students for the purpose of preventing the initiation of cigarette smoking. Previous smoking prevention efforts had attempted to dissuade adolescents from beginning to smoke by providing them with factual information concerning the adverse health consequences of smoking. Evaluation studies testing the effectiveness of those approaches had consistently indicated that they did not reduce cigarette smoking.

Botvin concluded that the traditional smoking education approaches failed because they were based on faulty assumptions concerning the factors promoting cigarette smoking and that, based on existing data concerning the etiology of cigarette smoking, a more comprehensive prevention approach was necessary. The LST program, therefore, was developed to provide junior high school students with the knowledge, attitudes, perceptions, and skills for resisting both inter-personal and intra-personal influences to smoke. Put differently, this approach was designed to provide students with the means and motivation to resist social influences to smoke. To accomplish this the LST approach emphasized the teaching of both domain-specific and generic material--material intended to enable students to resist direct and explicit social influences to smoke along with material designed to enhance general personal competence.

The LST program, in contrast to the IPS approach of Elias and his colleagues or the SCT approach of Weissberg and his colleagues, was developed as a targeted intervention, despite its emphasis on generic skills training--a feature shared with the IPS and SCT programs. However, during the decade since its original development, increasing attention has been given to broadening the focus of the LST program from smoking to alcohol and drug abuse. Pilot work is even underway to determine its efficacy as an AIDS risk reduction strategy.

Conceptualization. The conceptual foundations of the LST prevention program rest largely on social learning theory (Bandura, 1986) and problem behavior theory (Jessor & Jessor, 1977). Within

this framework, the use of psychoactive substances is conceptualized as socially learned and functional behavior that is the result of the interplay of both social environmental and personal factors. Substance use behavior, like other types of behavior, is learned through a process of modeling and reinforcement which is mediated by personal factors such as cognitions, attitudes, and beliefs.

Social influences to smoke, drink, or use drugs can originate from the attitudes and behavior of family members (particularly parents and older siblings) and friends. They may also arise from the portrayal of substance use in the popular media as something that is both acceptable and an essential ingredient of popularity, sex appeal, sophistication, success, and good times. Not surprisingly, the initial use of most substances tends to occur in social situations, with solitary use being relatively uncommon (Biglan et al., 1987).

On an individual level, a number of psychological factors have been associated with substance use, including low self-esteem, a greater need for social approval, high anxiety, low assertiveness, and external locus of control, and an impatience to assume adult roles (Botvin, 1986). Researchers have also found that substance users differ from nonusers along several behavioral dimensions which suggests a difference with respect to value orientation. For example, individuals who use drugs tend to get lower grades in school, are less likely to participate in organized extracurricular activities such as sports or clubs, and are more likely than nonusers to engage in antisocial behaviors such as lying, stealing, and cheating (Jessor & Jessor, 1977). Finally, evidence from a variety of sources indicates that individuals who use one psychoactive substances are likely to use others. For example, adolescents who use opiates are also likely to drink excessively and to smoke (Kandel, 1978).

The LST program was developed after a careful consideration of many factors found to be associated with the initiation of adolescent tobacco, alcohol, and drug use/abuse. In its current form, the prevention program is a psychoeducational curriculum that focuses on the primary psychosocial determinants of substance abuse. This type of prevention strategy is designed to help young people develop basic personal and social skills and an increased sense of personal control.

As a result, emphasis is placed on learning to apply and practice skills that are specifically relevant to the problems confronting adolescents. Thus, the problem of substance abuse is addressed within the larger context of acquiring basic life skills and enhancing personal and social competence. Because the LST approach was designed for junior high school students, it focuses on the prevention of the use of tobacco, alcohol, and marijuana--

the "gateway" substances that are likely to be adopted at this age period.

The program objectives of the LST program are to:

- Provide students with the necessary skills to resist direct social pressures to smoke, drink excessively, or use marijuana;
- Decrease students' susceptibility to indirect social pressures to use tobacco, alcohol, and other drugs by helping them to develop greater autonomy, self-esteem, self-mastery, and self-confidence;
- Enable students to cope effectively with anxiety, particularly anxiety induced by social situations;
- Increase awareness of the negative consequences of substance use, particularly more immediate physical and social ones;
- Correct normative expectations concerning substance use by providing them with accurate information concerning the prevalence rates of tobacco, alcohol misuse, and marijuana use;
- Promote the development of attitudes and beliefs consistent with non-substance use.

Design. The LST program is administered as a 15-session curriculum in the 7th grade, 10-session "booster" curriculum in the 8th grade, and a 5-session booster curriculum for the 9th grade. The LST program includes five major components: knowledge and information; decision making; self-directed behavior change; coping with anxiety; and social skills. Each component described consists of two to six lessons designed to be taught in sequence. A detailed description of the program's content and activities is contained in an LST teacher's manual (Botvin, 1986).

Because the pressure and opportunity to use tobacco, alcohol, and marijuana remains, indeed often grows, during the middle or junior high school years, the creation of a health-promoting, school milieu is reinforced by booster sessions after the initial presentation of the LST curriculum. For this reason, a 10-session curriculum for the 9th grade has been added to the original program package.

In addition to reinforcing the main points of the LST program, the emphasis of the booster sessions is mostly on the demonstration and practice of the social and personal skills that form the foundation of this prevention approach. Teacher's manuals have been developed for both the 9-session and 5-session booster curricula.

Implementation. Introducing an innovative curriculum into a school system is a complex and challenging process. This process is often hindered by the fact that schools are structurally arranged to resist change. Individuals who play a role in bringing an innovative curriculum into the classroom often have very different concerns and may answer to different constituents. For example, school administrators tend to be concerned about program costs, parental or school board reaction to the new program, and how long it takes to train teachers adequately. Teachers may wonder if the new teaching strategies demanded by the curriculum will change the way in which they relate to students, and if people who know about the curriculum will be available for questions and advice once the implementation has begun.

Prior to implementing the LST program, initial planning discussions are held with school administrators, teachers, and parents. The LST program has typically been scheduled for implementation in health or another major subject area such as science or social studies. The curriculum can be taught either once a week or as a concentrated mini-course or curriculum module over a 3- to 4-week period. Past experience indicates that the quality and commitment of the individual implementing the program is more important than the particular subject area. The LST program has been implemented by outside health professionals, older peer leaders, and regular classroom teachers. The role of the individual implementing the LST program can best be conceptualized as partly that of facilitator and partly that of a coach or trainer. As facilitators, the individuals implementing the LST program are responsible for initiating and directing class discussion and correcting any misinformation. As coaches or trainers, they are responsible for teaching an array of personal and social skills using a combination of techniques including instruction, modeling, behavioral rehearsal, feedback, and reinforcement.

Prior to implementation of the LST curriculum, individuals implementing the program participate in a formal training workshop that consists of one to two days of training. Individuals implementing the LST program are provided with a teacher's manual containing detailed lesson plans, students' guides, and an audio cassette tape (for the session on coping with anxiety). Beyond the initial training, individuals implementing the prevention curriculum are provided with ongoing support and consultation.

Evaluation. Several evaluation studies have been conducted to assess the efficacy of the LST prevention strategy. These studies were also designed to obtain information about the effectiveness of different types of providers, of booster sessions, effects with different target populations, with different "gateway" substances, and with and without a formal teacher-training workshop and ongoing consultation. Throughout their research studies, a concerted effort was made to maximize internal and external

validity. Considerable attention was paid to research design and measurement issues, and many refinements have been made over the years to strengthen the methodological rigor of the studies. These research studies have progressed from small-scale pilot studies involving just a few hundred students to large-scale prevention trials involving several thousand students. Their design measurement and evaluations carried out by this group over the years have given us some of the most valid and useful information available.

The initial pilot study (Botvin, Eng, & Williams, 1980) was designed to assess LST's short-term efficacy in preventing the onset of cigarette smoking among 8th - 9th graders (N = 281) from two comparable suburban New York schools. After randomly assigning schools to experimental and control conditions and pretesting students, the program was conducted in the experimental school. At the end of the program, the experimental group was found to have 75% fewer new cigarette smokers than the controls. Although a 3-month follow-up study (Botvin & Eng, 1982) found some erosion of the posttest effects, there were still 67% fewer new smokers among program students than controls.

A second study assessed program efficacy when conducted by 11th and 12th grade peer leaders (Botvin & Eng, 1982). In this research, seventh graders in two comparable suburban New York schools were randomly assigned to experimental and control conditions (N=426). In addition to self-report questionnaire data about smoking behavior, saliva samples were collected from students using the "bogus pipeline" technique (Evans, Hansen, & Mittlemark, 1977). Posttest results indicated that there were 58% fewer new smokers among program students as compared to controls. Saliva thiocyanate (SCN) analysis confirmed that finding. Thus, although SCN levels increased significantly from pretest to posttest in controls (indicating increased cigarette smoking), there were no changes in SCN levels among program participants. The 1-year follow-up data indicated that there were 56% fewer LST students than controls who had become regular cigarette smokers since the pretest.

A third study (Botvin, Renick, & Baker, 1983), with 7th grade students from several suburban schools (N=902), sought to assess the relative efficacy of (a) the LST program when implemented by regular classroom teachers according to two different implementation schedules (one class per week versus multiple classes per week), and (b) booster sessions. Self-report data were collected by questionnaire, and the "bogus pipeline" technique used in the previous study was repeated.

At posttest, there were 50% fewer smokers in the experimental groups than in the controls. No differences were found between groups receiving the LST program according to the two implementation schedules. At the 1-year follow-up, there were 55%

fewer smokers among program students who had the more intensive implementation. Furthermore, there were 87% fewer regular smokers among the 7th grade program students who also had 8th grade sessions booster sessions compared to controls.

To assess the potential of this intervention strategy for other forms of substance use, a pilot study was conducted with 7th graders from two comparable New York City public schools (N=239), randomly assigned to experimental and control conditions. Information was included in the LST program concerning the consequences of alcohol misuse and, where appropriate, the generic skills taught in the program were applied to situations that might promote alcohol use.

All students were pretested by questionnaire during the 7th grade and tested again 9 months later. No program effects were evident at the initial posttest; however, at the 9 month follow-up point, 54% fewer program students reported drinking than controls during the past month, 73% fewer program students reported heavy drinking, and 79% fewer students reported getting drunk one or more times per month.

In addition to these studies, three large-scale prevention trials are currently underway. One study involves two cohorts of approximately 10,000 students each from 56 public schools in New York State. Using a randomized block design, schools were assigned to the following conditions: LST with a formal teacher-training workshop, LST with packaged (written and video) teacher training, and a no contact control. The LST program was implemented with 7th graders, and booster sessions will be provided in both the 8th and 9th grades.

Two other studies now underway are examining LST's efficacy with urban minority students. The first is with a predominantly Black sample (N=3,000) from approximately 30 public schools in northern New Jersey. The other study is being done with a predominantly Hispanic sample (N=5,000) from 47 schools in New York City; the sample is equally divided between public and parochial schools. Although the prevention strategy in this program is essentially the same as that used in our previous research, the curriculum materials have been modified to maximize cultural sensitivity and appropriateness to the target population. Evidence from the pilot phase of both studies (Botvin, Dusenbury, Baker, James-Ortiz, & Kerner, in press; Botvin, Batson, Witts-Vitale, Bess, Baker, & Dusenbury, in press) and preliminary evidence from the first year of the full scale prevention trial with hispanic youth offers support for the approach's efficacy with urban students in a multiracial environment.

Innovation Diffusion. Thus far the LST prevention curriculum has been implemented primarily within the context of formal research investigations. These studies have involved over 25,000

students from over 200 schools. A good index of the likelihood of successful diffusion of any innovative curriculum introduced to schools initially as part of a research study is whether the curriculum becomes institutionalized as part of the regular curriculum. Although many of the schools who have been involved in these research studies have adopted the LST program and continued to implement it on their own, no data are available concerning the extent to which this has been the case. Another index of diffusion is the extent to which the program has been adopted by new schools. Although no formal data exists concerning this index of diffusion, the LST program has been adopted by a number of schools throughout the country including schools in Vermont, Arizona, Arkansas, California, Georgia, Florida, Michigan, Illinois, Idaho, and Kentucky.

Summary and Conclusions. Botvin and his colleagues developed and tested a prevention program for junior high school students initially targeted at a specific problem--cigarette smoking. More recently, the target of this prevention curriculum has been broadened to include alcohol and drug abuse as well as AIDS. Because of its emphasis on the teaching of generic personal and social "life skills" and to differentiate it from traditional informational approaches, the program was called Life Skills Training. The LST program is typically implemented during the 7th grade, with booster sessions in the 8th and 9th grades.

After over a decade of research with this approach, evaluation studies have demonstrated its efficacy for decreasing the incidence and/or the prevalence of cigarette smoking, alcohol misuse, and marijuana use. These studies indicate that it can be effectively implemented by outside health professionals, older peer leaders, and regular classroom teachers. Moreover, although most of the research has been conducted with white, middle class, suburban populations, recent data provide preliminary evidence of its effectiveness with urban minority students.

D. Linked School and Community Programs

Early Adolescent Helper Program

Some of the problem behaviors of adolescents may reflect the lack of a meaningful role for adolescents in modern society. Joan Schine has shown that opportunities to engage in the community can be structured to enable adolescents to achieve a variety of goals: to broaden their knowledge and understanding of the varieties of vocations that are available to them, to appreciate the education, to obtain job training, and learn the commitment that is required. Adolescents can learn about the satisfactions, demands, and disadvantages of various types of work. Structured job experiences and volunteer activities may also be used to connect adolescents

with supportive, non-parental adults who can act as role models, mentors and counselors for them in the transition to adulthood. There is an opportunity to learn by doing. When there are links between school and community, skills that are taught in school can be practiced in the real world. Conversely, experiences in the real world can be examined, understood and refined in a supervised school discussion and review.

In our society age groups are relatively isolated: there is limited communication across generations. This age segregation restricts opportunities for teenagers to interact with adults other than teachers or parents. "At-risk" youth, often separated from the "mainstream" by the conditions of their lives and environment, tend to be more isolated than the general population. Yet if they are to move toward a more stable and satisfying adult life, they must learn to relate to diverse individuals and groups. Adolescents, particularly inner city adolescents, have generally seen themselves only as recipients of services. As valued and competent service providers they are cast in a very different and rewarding role that elevates self-esteem.

The Early Adolescent Helper Program engages young adolescents in responsible and important work in their communities and in their schools. Two assumptions are at the core of the Helper Program: 1) that young adolescents need to become actively involved in their communities, and 2) that these communities need the energy and caring that young adolescents can contribute. In the Helper Program, young people serve as interns, assistants, and helpers two or three times a week in early childhood and after-school child care programs, senior centers, community agencies and other appropriate settings. They receive training and supervision in a weekly "seminar" under the guidance of a trained adult - usually a teacher or guidance counselor - at their schools. In the seminar they learn about the population with whom they will work, and discuss their expectations and those of the staff and/or clientele at the agency, classroom, or institution where they will volunteer. These sessions draw upon the Helper Program Leaders' Guides, which suggest seminar content and describe a variety of learning activities, such as role plays, and using the student journal as a tool for reflection and examination of work experience. The seminar continues to meet for the duration of the program, and is the critical component in a support system of peers and adults that helps the young people to reflect on their experiences and to learn from them.

Unlike classroom curricula whose specific goal is to teach life skills, the Early Adolescent Helper Program provides a laboratory where life skills are applied, where the impact or consequences of behavior are apparent, and where there is immediate feedback.

In addition to the direct benefits it brings to the young people, the Early Adolescent Helper Program connects school and community in new and positive ways.

Goals. The purposes of the Helper Program are:

- To provide meaningful community roles for young adolescents;
- To help schools that serve young adolescents to develop and implement community service programs, and to incorporate community service and action learning into the curriculum;
- To offer assistance and support to the teachers and adults who work with young adolescents so they can provide meaningful and developmentally appropriate activities for this age group;
- To introduce young people to the world of work and to the behaviors and attitudes appropriate to that world;
- To provide opportunities for trying out new roles and skills in "real world" settings;
- To support young adolescents in their struggle to understand interpersonal relationships and to develop insights and values;
- To educate young people about the role of the citizen in a democracy and to build citizen responsibility for community;
- To provide a setting where young adolescents may explore values and acquire insights that help them in forming positive relationships and developing a feeling of "belonging."
- To reduce the isolation of schools from the community and to forge linkages among institutions in the community concerned about youth.

Thus, the Early Adolescent Helper Program addresses many of the developmental needs of early adolescence, described in Chapter II of this report, through enabling these young people to participate in the community in active, responsible roles.

The Program. Since its establishment in 1982, the Early Adolescent Helper Program has helped schools and community agencies to involve young adolescents in active, responsible roles through development of program models, curriculum guides and other supporting materials, and provision of training workshops and on-site technical assistance.

Within New York City, where the project began its work in three schools in 1982, 16 schools in eight community school districts are now active participants. Since that time, the Helper Program has spread to additional cities across the United States.

Close to 1000 young people have served as child care helpers in day care and Head Start programs, as oral historians in senior centers, and as assistants in elementary school latchkey programs.

The Helper Program has four emphases: 1) community service; 2) understanding of self and others; 3) knowledge of community; 4) employability skills and behaviors.

1. Community service. Young adolescents serve as Helpers two or three times a week in community agencies and meet as a group under the supervision of a trained adult in a weekly seminar. The Helper Program office assists the school in identifying placement sites and in providing information to potential collaborators; the school is responsible for maintaining the linkages.

A Program Leader identified by the participating school takes part in workshops for orientation and training at the Helper Program headquarters in the Graduate Center of the City University of New York. These workshops familiarize the Leaders with the Helper Program Guides, address problems Program Leaders have met or may anticipate, and serve as a catalyst for networking among participating schools. Exchange visits among programs in Bridgeport, East Harlem, and Long Island have come about as a result of such networking.

The Program Leader coordinates the student placements, conducts the weekly seminar, works with other teachers in the school to integrate the service experiences into the students' school lives, and communicates regularly with the staff at the placement sites about how the students are doing.

2. Understanding of self and others. The Early Adolescent Helper Program is a vehicle for fostering positive development in early adolescents. In the weekly seminar, young people share experiences, ideas, feelings, and strategies. Conducted by a skilled adult, usually a guidance counselor or teacher, the seminar is a small group discussion that prepares them for their roles. It usually includes hands-on activities that provide an opportunity to rehearse, and that build Helpers' skills. A strong emphasis on reflection encourages the young people to understand themselves, to take initiative and responsibility and to consider their futures.

Building trust within the seminar group enables the young people and the Program Leader to confront concerns not usually addressed in the school setting. For example, Helpers' experiences in their placements inevitably provoke questions about power and

authority, and the Program's seminar provides a forum for dealing with issues that affect them directly but over which they have traditionally had little control. Child Care Helpers frequently raise issues of discipline; they learn to distinguish between helping children to learn cooperation and self-control, and demanding unquestioning obedience. They are able, in this context, to consider their own growth in taking responsibility for their actions, and in setting limits for themselves. The Program Leader establishes a climate that encourages youngsters to bring out some of their deepest concerns. These may range from discussions of teen pregnancy and sexuality to career aspirations.

Young adolescents are sometimes puzzled by the response that their behavior evokes. In the seminar, discussing interactions at the work site, they can begin to understand cause and effect in these interactions and consider what they might do to evoke the desired response.

3. Knowledge of community. For both the adults and the adolescents, gathering information about the community is an integral part of the program. School personnel, from principals to Program Leaders, get to know the resources and support systems within their communities as they seek placements and internship opportunities. Community agency staff gain knowledge about the local schools through what is often their first formal contact with the school system.

And the young people begin to get a sense of what a community is and how a neighborhood functions. They become aware of the existence of child care and senior citizen centers, and during the seminar they talk about the role of these agencies in society. They develop community action projects to respond to needs they notice during their work. At the end of the school year, they participate in the annual Convention of Helpers at the Graduate Center, where they share their experiences in their placements and their communities with others involved in the Program.

4. Employability skills and behaviors. The Helper Program prepares young people to take responsibility, to understand and participate in the world of work, to work with others, and to solve problems and resolve conflicts. Students are interviewed for their placements by their prospective "employers." They must sign in when they arrive at their placements and are expected to be punctual and to let their supervisors know when they cannot attend.

Because the work they are doing is authentic and affects others, Helpers receive immediate feedback. Instead of the delayed response that is built in to much of the "traditional" curriculum, young people who participate in community service see and feel the consequences of their actions. Positive behaviors are thus reinforced; mistakes -- and how to avoid repeating them -- discussed.

In the weekly seminar, appropriate behavior and dress are discussed, along with techniques for working with the population they are serving. Students help one another consider ways to handle problems with co-workers and supervisors. For some Helpers, this first employment experience provides insights about what is involved in a job, careers that might be of interest to them in the future, and themselves as workers.

Program Evaluation. The Early Adolescent Helper Program operates in diverse sites. With a small central staff, the data collection process has for the most part been dependent upon participant motivation and good will. There is a need for more complete information about the program, about the consistency of implementation across sites, and about the young Helpers themselves. A study of the program's effect on social cognition and perspective-taking is currently in progress; preliminary findings are anticipated in the summer of 1990.

Starting in the program's first year, when Helpers were involved only in early childhood placements, pre- and post-tests have assessed changes in participants' attitudes over the course of program participation. These evaluations have found that stereotypes (seeing young children as "cute," senior citizens as "cranky" or "helpless") were replaced by more realistic descriptors. Helpers working in Headstart or day care were found to be concerned with issues of discipline and control early in the program year, and suggested punishment, ranging from spanking to removing privileges, as the way to deal with preschoolers' antisocial behavior. By year's end, they were able to offer a wide variety of options for dealing with toddler problems as hitting, or failure to share. Among their suggestions: removing the out-of-control child from the group, talking quietly with him or her, or changing the activity.

In the program's third and fourth years, a study undertook to look at student Helpers, child care staff and seminar leaders in two schools and four early childhood programs. The assessment sought to determine why Helpers joined the program, what the Helpers did in the child care centers, and how working in the centers affected the Helpers.

1. Helper nonattendance and "dropping out" constituted a problem at some sites. Dropping out and/or poor attendance can not be predicted by either the tasks the Helpers do in the center or their reasons for joining the program. Several of the child care directors suggested that the problem was related to Helpers not appreciating the level of time commitment of the program before they agreed to participate.

2. From site to site there was variation in the quality of the seminars with many being excellent and others being less focused and supportive, and sometimes irregularly scheduled.

3. In the eyes of the child care directors, good communication with the seminar leader was the key to the success of individual programs. A seminar leader was credited with turning one program from failure to success; while the lack of a responsible seminar leader seriously hurt a previously successful program.

4. Helpers are doing a number of different activities. The activities do not appear to increase as the Helpers become more experienced. In several sites, child care teachers had little input into the activities Helpers did, leaving Helpers who had less initiative with little to do. However, the program has developed an orientation program for child care staff, including a slide tape show and a brochure that focuses on the different tasks Helpers can do, to help child care staff use all Helpers more productively.

This study indicated that the Early Adolescent Helper Program is effective in improving the attitudes of Helpers toward children and toward themselves. It also appears to be providing participating child care centers with Helpers who contribute to their program. Over all, the Early Adolescent Child Care Program is working. It is providing motivation, needed technical assistance and training as well as serving as a vehicle for sites to communicate with each other.

E. Midwestern Prevention Project

Mary Ann Pentz and colleagues have mounted a large multi-community intervention to prevent smoking and drug abuse. Their program was planned to address some of the methodological problems of earlier programs. On the basis of a careful literature review of 143 school-based drug prevention programs, they had concluded that even the best of these programs had positive effects that were short-lived. Other research suggested that linkage of the school-based curriculum to a complementary community effort would support and sustain the effectiveness of the intervention.

Goals. The aim was to develop a drug prevention program with long term efficacy. A preventive intervention model that integrated multiple environmental influences was felt to be required to achieve sustained long-term changes in adolescent drug use. These components could be used to support and extend prevention skills learned initially in a school program and to promote a consistent community norm for not using drugs. This concept was supported by data from studies of community-based programs for prevention of unwanted pregnancy and cardiovascular disease, in which use of some of these influences in a small number

of communities have been associated with significant reductions in estimated pregnancy rates and cigarette smoking. The comparable studies do not exist for drug preventions. Existing programs for drug prevention have not been designed with the size and number of sites required to produce sufficient power to estimate effects on whole communities.

Careful attention was given to design issues that have been of concern in prior studies. Statistical control of demographic variables in community-based drug prevention research should include adjustments for experimental group differences in baseline prevalence rates of drug use, demographic characteristics of schools and communities that correlate with drug use. Pentz et al point out that, for example, while prior research has shown that an average of 4% to 6% of youths in sixth and seventh grades use cigarettes, alcohol or marijuana on a weekly basis, and 30% use these drugs by 9th or 10th grade, rates vary by individual schools and communities. Regarding demographic characteristics, variables that correlate with drug use but that have not been controlled in many prevention studies include socioeconomic status (as indexed by father's or mother's occupation), race, age or grade, and geographic location. Finally, most prevention studies used the individual as the unit of analysis, despite the fact that program assignment and implementation typically occur at the level of school or classroom.

The design also included a "booster" component. Most of the programs reviewed by them had had a one-time, "single-shot" presentation. Their program employed a multiple successive component design that extended the intervention by adding components on a yearly basis from 6th grade to 12th grade.

They designed a comprehensive, community-based program that uses school, mass media, parent, community organization, and health policy programming to reduce the prevalence of "gateway drug" (tobacco, alcohol, marijuana) use in adolescents. The program has been implemented in 50 schools in 15 communities from an eight-county area in Kansas and Missouri since 1984. It is part of the Midwestern Prevention Project (MPP), a 6 year longitudinal study of community-based drug prevention that expanded to Indiana communities in 1987. They have analyzed the results of the MPP on adolescent drug use in Kansas City (Kansas and Missouri) communities for the first two years of the six year longitudinal study. Drug use data are adjusted for baseline use levels and school demographic characteristics related to drug use, and school is used as the unit of analysis to test program effects.

Study Design. The overall MPP program includes a quasi-experimental design in Kansas City and as well as a randomized experimental design in Indianapolis, Indiana, to test the effectiveness and replicability of a multicomponent community drug

abuse prevention program. The entire early adolescent population of the 15 communities that constitute the Kansas City (Kansas and Missouri) metropolitan area participated in a community-based program for prevention of drug abuse starting September, 1984. The Kansas City area is the first of two major metropolitan sites being evaluated in the Midwestern Prevention Project (MPP), a longitudinal trial for primary prevention of cigarette, alcohol, and marijuana use in adolescents. The project includes mass media programming, a school-based educational program for youths, parent education and community organization, and health policy components that are introduced sequentially into communities during a 6 year period. Effects of the program are determined through annual assessments of adolescent drug use in schools that are assigned to immediate intervention or delayed intervention control conditions. In the first 2 years of the project, 22,500 sixth- and seventh-grade adolescents received the school-based educational program component, with parental involvement in homework and mass media coverage. The intervention was evaluated across all the communities that constitute these two midwestern Standard Metropolitan Statistical Areas (SMSAs). Within each SMSA, cohorts of adolescents were assigned by school to intervention or delayed intervention control conditions. Baseline assessment and intervention is initiated in the year marking the transition to middle or junior high school (sixth or seventh grade). Program replication is lagged 3 years such that implementation and testing that was initiated in Kansas City communities in 1984 began in Indianapolis in 1987. With the exception of mass media coverage, which is offered each year of the program but is not experimentally controlled, the other four prevention program components are added sequentially to the program at the approximate rate of one per year.

Implementation. School and community demographic profiles were first compiled to assess recent prevention activities. This needs assessment was followed by establishment of a community coordinating structure of school and community leaders to plan program implementation. Program planning was followed by the training of all nine television station managers, 65 teachers, and four student leaders per class per school in drug prevention skills and program delivery ("Training of Program Implementors") and implementation with more than 7500 students and their parents in half of the Kansas City Schools ("Mass Media" and "Educational Program for Youths"). Through January, 1986, programming focused on "Direct Skills in Resistance and Counteraction" to drug use pressures. A televised press conference and routine meetings of community leaders were used to publicly announce expectations for change in drug use for each year ("Reduction of Drug Use Prevention").

The program components delivered from September, 1984 through January, 1986, consisted of a 10-session youth educational program

on skills training for resistance of drug use, 10 homework sessions involving active interviews and role-plays with parents and family members, and mass media programming. The youth educational program was given in school, using science or health education classes. The topical areas included: psychosocial consequences of drug use; correction of beliefs about the prevalence of drug use; recognizing and counteracting of media and community influences on drug use; peer and environmental pressure resistance; assertiveness in practicing pressure resistance; problem solving for difficult situations that involve potential drug use; and statement of public commitment to avoid drug use.

Methods for learning of prevention skills included modeling and rehearsal (role playing) of resistance skills, feedback with peer reinforcement through discussion, peer leader facilitation of teacher program implementation, and discussion of homework results.

The companion homework sessions involved interviewing parents and family members about family rules on drug use, discussion of successful techniques for avoiding drug use, and methods for family counteraction of media and community influences to use drugs. Homework was assigned as part of each classroom program session, completed assignments were collected and discussed in subsequent classroom sessions. Teachers reported that approximately 80% of students completed homework assignments.

Mass media coverage of the program consisted of newspaper articles and 1 to 2 minute television news clips of project staff announcing the purpose and direction of the project; coverage of teacher training and classroom sessions; television and radio talk show interviews with project staff about program progress; and a televised press conference reporting baseline rates of drug use in the Kansas City area. A total of 16 television, 10 radio, and 30 print media events for the project occurred over the metropolitan area from September, 1984 through January, 1986.

Evaluation. Program effects were estimated with several alternative statistical models (including covariance and change score models with both the proportion of drug users in each school and the logit of that proportion as the metric). Conclusions concerning program effects were uniform across these alternative approaches. The total sample of individuals observed at baseline in 42 schools was 79% white, 17% black, 2% Hispanic; 49% male and 51% female; and 39% professional/managerial based on father's occupation, 10% white collar, and 51% blue collar labor. Analyses of 42 schools indicate that the prevalence rates of use for all three drugs are significantly lower at 1-year follow-up in the intervention condition, as compared to the control group with or without controlling for race, school, grade, socioeconomic status, and urbanicity 17% vs 24% for cigarette smoking, 11% vs 16% for alcohol use, and 7% vs 10% for marijuana use in the last month.

Developmentally, there is an age related increase in adolescent drug use. The net rise in drug use prevalence among intervention schools is half that of the increase in no intervention schools.

Results on the 42 schools reported are consistent with findings from multiple waves of follow-up that have analyzed the smaller panel of individuals who are tracked throughout the project. Preliminary results of 2 year follow-up in the tracking study (1986 through 1987) suggest that program effects have been maintained. The maintenance of group differences over time suggests that the program effect is not a novelty effect or an initial short-term effect. The increase in the net difference between groups over time suggests that the resistance skills and social environment intervention model followed in this program, reinforced through the addition of multiple successive components, might be shifting the normative social climate in the youthful population toward a non-drug use norm.

Efforts were made to assure the validity of the student self-report measure. Actual smoking was tested using carbon monoxide measures. Parent reports on child's smoking and drug use was also obtained. Results of the carbon monoxide and parent self-report measures suggest that the program group is not differentially underreporting drug use behavior relative to the control group. However, neither of these measures is reliable enough to determine whether adolescent self-reported drug use is systematically underreported across all study groups. More reliable estimates of actual adolescent drug use behavior will be available with the continued measurement of carbon monoxide level as the study population increases in age.

Recently, researchers have raised questions concerning how community-based prevention programs work and which intervention components are most cost-effective. The design of the MPP should enable tests of the cost-effectiveness of the various program components and replicability of the program in multiple, diverse communities over a 6-year period. At this stage of the project, effects of the 10-session school program component, parent involvement in homework, and mass media coverage have been evaluated across 42 diverse schools in Kansas City-area communities 1.5 years after intervention was initiated. Future analyses will focus on effects of the total program relative to its component parts as measured by expected impact, level of implementation, and level of exposure of study participants to each component.

V. COMMUNITY-BASED INTERVENTIONS

Introduction

Although schools give evidence of strong interest in promoting life skills in their students and there has been increasing acceptance of such programs into school curricula, there is an important role for community based interventions. First, adoption of school-based life skill programs will continue to depend on local option for the foreseeable future. As a result, there will continue to be substantial numbers of school officials who, for a variety of reasons, do not choose to include life skills training. Also, even when schools do offer good programs there are some youngsters who will simply respond better to a non-school setting. Across the nation most communities have programs that offer recreation, support or teach skills to youngsters. Youth agencies serve about 25 million young people annually, and thus are second only to the public schools in the extent of their influence. Youth agencies offer some advantages over the schools. They are free to experiment. They reach children early. They typically work in small groups with 10-15 young people at a time. One of the challenges for youth agencies is that participation is voluntary. In securing support for programs and in recruiting members, youth agencies not only have to market programs to policymakers and administrators, but also to the youngsters. Programs have to be fun, interesting, and relevant. However, at present only a few offer carefully organized life skills programs that have clear objectives, structured curricula, training for the teaching staff or evaluation of outcomes.

A. Girls Clubs of America

Girls Clubs of America has well-developed programs that meet high standards. Furthermore, the organization reaches out to disadvantaged and minority youngsters. Three-fourths of its members are from families where income is under \$15,000/year; fifty percent are from families with an income under \$10,000/year. Half of membership of Girls Clubs is from single parent families and half from minority groups. Because these programs work with young people on a daily basis (after school, all day on Saturday, and every day during the summer), they have the opportunity to make a significant impact on the adolescent. While only one of the six core Girls Club's programs is called life skills, the life skills training approach is actually integrated into the overall programming across all modules. Learning to use community resources is a life skill that is heavily emphasized. It is part of all of their programs whether they are categorical or generic.

Girls Clubs of America has a major program for pregnancy prevention, which has four components. The first, "Growing

Together," focuses on parent-child communication about sexuality. It gives parents and daughters an opportunity to practice communication skills. Second, there is a training component called "Will power/ Won't power," in which assertiveness training is taught. Club members are taught to analyze social influences and the media, and to develop peer resistance skills. The third component called "Taking Care of Business" is a life planning course. Through a series of exercises this component teaches goal setting, decision making, and planning for one's own future. Finally, the "Health Bridge" is the fourth component that links the educational services in the Girls Club to the clinical services in the community. Contraceptive services are made more accessible to girls who need them, for example. An evaluation of this program is currently underway.

A new program on substance abuse prevention is now in operation, where girls 10-14 years old are trained to become peer leaders, and in turn, plan programs for 6-10 year olds. Stress management, communication skills, and refusal skills are taught in this program. Data are now being collected on substance abuse and girls, because the literature suggests that there is a gender difference in the reasons adolescents use substances and in the substances that they use. Girls also appear to have different responses to intervention programs. This needs further study.

Girls Clubs of America believes that because of long-standing biases and sex role stereotypes, girls require interventions that address specific needs and provide activities that challenge and prepare them to achieve their full potential and to be successful on an equitable basis in the larger society. They state:

- Girls deserve environments in which they are taken seriously for who they are, what they do, and how they think and feel.
- Girls deserve opportunities for active involvement with peers in acquiring new information and practicing new skills.
- Girls deserve relationships with adults who understand their needs and strengths, challenge them to take risks, and maintain high expectations for their achievement.

The physical and social environment of each Girls Club should convey the message that girls are strong and caring people who are respected and deserve to be taken seriously for who they are now, and for the women they will become. The environment also includes such social factors as the ease or difficulty girls experience in joining and participating in Club activities, the tones of voice in which members are addressed, the rules they are required to follow, and the example set for them by staff in terms of values, attitudes and standards of behavior. Adult female and male leaders

are egalitarian and non-sexist in their beliefs and behavior. Many opportunities exist to explore nontraditional roles and activities. Posters and other art work depict girls, boys, women and men in non-stereotyped ways.

High but attainable standards of achievement are set. There are many examples of success in evidence, of problems confronted and overcome, and of new beginnings. All accomplishments, large or small, are given recognition.

The environment is supportive and conveys to every girl that she is important, interesting and likable. Staff greet each member warmly; pictures of the girls and samples of their work are displayed on the walls; all girls are listened to attentively; the teaching of sign language, Spanish and other specialized courses help make everyone feel accepted and able to communicate. Diversity is valued and deep respect for cultural heritage is expressed regardless of socioeconomic status.

The Girls Club is a resource center. It is a place full of books, ideas, tools, up-to-date equipment, and other resources for having fun, solving problems, gaining skills, improving one's academic performance, and planning for a career.

Democratic principles are demonstrated. Experiences are provided of effectiveness either as a leader or as a follower, of how to make rules and of how to abide by them; of how to treat differing points of view with respect; and of how to take on the responsibilities of membership and citizenship, including the responsibility to recommend change.

Programs are age appropriate. The environment takes account of the fact that girls' interests, needs and abilities change with age and experience; space is set aside for teens so that they can be apart from younger girls, and appropriate challenges and support for girls at each age and talent level enable them to stretch and grow at their own pace.

The Club setting meets rigorous standards for the health and safety of girls and staff; the age level of participants and the nature of the activity being conducted determine the adult-to-child ratio.

Core Program Elements

(1) Careers and Life Planning - Major emphasis is placed on helping girls explore new interests and skills, as well as a wide variety of future career options.

The goal is to enable girls to pursue careers that will provide them with economic self-sufficiency and to enable them to

integrate a rewarding career into their lives as women and as family members.

Specific objectives are to:

- Sustain girls' interests in math and science; make high technology relevant, accessible and fun.
- Help girls identify and reject career stereotypes for women.
- Identify career possibilities during Club-based activities and field trips.
- Have girls meet and interact with women working in a wide variety of careers.

(2) Health and Sexuality - Enable girls to take charge of health enhancing behaviors and maintaining fit, healthy bodies and to function comfortably as responsible sexual persons.

- Prepare girls to deal with the physical, psychological and social changes brought on by puberty; educate them about male puberty as well.
- Help girls develop the needed skills to handle new feelings and social pressures.
- Increase girls' ability to recognize and resist peer pressure; use clear, simple techniques for teaching assertiveness skills.
- Promote the postponement of sexual intercourse until after adolescence or as late as possible in adolescence.

(3) Leadership and Community Action - Place major emphasis on helping girls understand their potential for effecting change within and beyond their local community. Enable girls to exercise personal and collective efficacy and responsibility and enable them to analyze and contribute to positive change in the community.

- Help girls develop problem-solving and conflict-resolution skills.
- Help girls experience group leadership in Girls Club activities and in other community-based settings, such as churches and schools.

(4) Sports and Adventure - Enable girls to compete and cooperate with confidence, to take physical risks, and to master a range of physical skills.

- Increase girls' ability to compete and cooperate through team sports; reinforce the concept of fair play and the lessons that can be learned from winning and losing.
- Encourage the mastery of physical skills as a means of increased confidence, competence and independence.
- Teach swimming and running as survival skills.
- Provide opportunities for adventures away from home, such as overnight camping, hiking and boating.

(5) Self-Reliance and Life Skills - To enable girls to meet life's basic challenges in areas both traditional and nontraditional for women. Prepare them to function independently and interdependently today and in the future.

- Reinforce basic consumer skills, such as managing money, reading labels, and comparison shopping.
- Increase skills for accessing community resources.
- Reinforce self-protection skills, such as avoiding dangerous situations.

(6) Culture and Heritage - To enable girls to appreciate their own and others' heritage, to enjoy diverse forms of creative expression, and to recognize the contributions of women to history and culture. Place major emphasis on helping girls feel connected by their past and future heritage as females, Americans and members of a specific cultural group.

B. The Summer Training and Education Program

The Public/Private Ventures has initiated The Summer Training and Education Program (STEP) to address school-age pregnancy which is still a major concern despite the fact that the rates are beginning slowly to decline. Most school-based pregnancy prevention programs are situated in Health Clinics and offer medical services and contraceptive advice. Life skills training programs have not specifically targeted reduction of teen age pregnancy as a goal. Sex education programs in secondary schools typically have been limited to physiological issues with information presented, often, in lecture format. When such programs exist at all they consist of 10 hours or fewer of training. Given the demonstrated relationship between adolescent pregnancy and the broad set of problem behaviors that occur together among at risk youth, it is appropriate to assume that social competence and life skills training can play an important role in reducing teenage pregnancy.

In a definitive report, the National Academy of Sciences, Panel on Adolescent Pregnancy and Childbearing reviewed all available statistics and current pregnancy prevention programming. The panel gave first priority to reducing the rate and incidence of unintended pregnancy among school age adolescents, especially those teenagers from the most socially and economically deprived environments.

To reach that goal, the first strategy the Academy panel recommended was enhancement of life options through life planning courses, programs to improve school performance, employment programs and role models. Other major national organizations including the Children's Defense Fund, the Council of State Policy and Planning Agencies and Planned Parenthood Federation of America also emphasize the importance of building competence, providing meaningful and attainable alternatives to pregnancy, and emphasizing the responsibility of the role of young men. They all recommended comprehensive programming.

These themes are reflected in the programmatic strategies and target groups of the Summer Training and Education Program (STEP), a model designed by Public/Private Ventures (P/PV) in 1984 and tested in a national demonstration managed by P/PV over the past four years.

STEP, a 15 month program model, serves disadvantaged 14 and 15 year olds, providing them with four integrated program components designed to enhance their life options: a life-planning course, remediation in reading and math, summer work experience, and school-year support that often includes regular meetings with a mentor/advocate who is "making it" in college or the world of work.

STEP operates in conjunction with the Summer Youth Employment and Training Program (JTPA, Title II-B). Participants receive 80-100 hours of work experience, 90 hours of remediation and 18 hours of life-skills instruction during each of two summers; the school-year support component operates during the intervening school year.

Work experience is provided by part-time Summer Youth Employment Training Program (SYETP) jobs, which primarily employ youth as aides in playgrounds, child-care centers, recreational programs and offices. Classes occupy the summer mornings. The curriculum for math and reading remediation, Practical Academics, was developed by P/PV and include week-long modules that teach basic skills in contexts relevant to the students. The Life Skills and Opportunities curriculum was also developed by P/PV specifically for STEP; it emphasizes personal decision-making and encourages awareness of the importance of making considered life choices. STEP's fourth component, school-year support, offers youth regular meetings with mentors/counselors, who refer them to needed services, provide or arrange tutoring, monitor their school

attendance and help them to maintain the progress made in the first summer. Mentors/counselors encourage them to remain in school and return for a second round of STEP the next summer.

By combining instruction in reading, math, sexual development and responsible social behavior with work experience during the summer months and providing critical support during the academic year, STEP seeks to improve disadvantaged youth's basic academic skills, help them reduce summer learning losses, encourage them to remain in school and reduce the incidence of teenage pregnancy, a major contributor to school drop out. STEP's long-term goals are increased school attendance, reduced teenage birth rates, higher graduation rates and better employment prospects after graduation. An additional aim is more creative use of the federally funded Summer Youth Employment and Training Program (SYETP), which enrolls large numbers of potential dropouts and teen parents but has only recently begun to focus on addressing their academic and life skills deficiencies.

STEP has been tested in a national demonstration whose four years of operation in five cities concluded in August 1988; follow-up research on STEP's longer-term effects for 2,400 treatment youth and 2,400 randomly assigned control youth (who had full-time summer jobs only) will continue through 1993. Replication of the STEP model began in 11 sites in the summer of 1988; 33 additional sites instituted the program in the summer of 1989 and approximately 30 new sites are scheduled to start up in the summer of 1990. The program has been institutionalized and sustained in the system at the demonstration sites as well as the replication sites.

The multicomponent model's short-term effects are positive, demonstrating that for relatively modest cost, STEP can significantly boost youth's academic competence. Control youth's math and reading scores slip dramatically during the two months summer vacation, while STEP youth not only stop losing ground but show gains in both reading and math. Continuing research will measure whether STEP affects graduation rates, years of school completed and early labor market experiences.

STEP's Life Skills and Opportunities (LSO) Component

Research is also being conducted to assess STEP's impact on pregnancy and parenting rates among the treatment and control groups, and to begin disentangling the elements of the "chicken and egg" question: Does teenage pregnancy precipitate or result from school failure and restricted life options?

In the short term, STEP youth show increased knowledge of birth control and the consequences of teenage parenting, however, impact on contraceptive use by those who are sexually active is inconclusive. It is clear, however, that LSO instruction has not

increased the likelihood of participants initiating sexual activity. In these respects, STEP results to date echo those of research on other comprehensive programs and seem to be more effective than single-purpose interventions.

The Curriculum

LSO's goal is to help young men and women take responsibility for their futures by learning to make informed choices about their own social and sexual behavior. LSO is therefore designed to help teens become more aware of their educational and vocational goals and raise their expectations for the future so they will be motivated to delay parenthood until they achieve those goals.

The LSO curriculum is an 18 hour detailed package of twelve 90 minute segments that help adolescents integrate preparation for future employment with planning for their future families and to avoid unintended pregnancy. Because they are so closely linked in the lives of young people, these two areas of adolescent development are addressed simultaneously.

The curriculum gives youth information and, even more important for effecting behavior change, the opportunity to develop and practice skills needed to take responsibility for one's own future. LSO builds such skills as assertiveness, decision-making, communication, and goal-setting, while helping youth recognize and reject stereotypes. This is accomplished in the context of the following topics: sexuality (for example, facts about reproduction, prevention of pregnancy and sexually transmitted diseases); the responsibilities of parenthood; employers' expectations; setting career goals and making plans to meet them. In the course of identifying community resources available to help young people meet their goals, one session is devoted to visiting a comprehensive health facility that serves adolescents.

The LSO curriculum is not value-free. It reflects what are generally believed to be the human rights and values supported by the majority of Americans. These human values are set forth as an important basis for making good life decisions. Implicit in the curriculum are the following principles:

- The worth and dignity of all individuals should be respected; diversity should be valued.
- Exploiting others, or using pressure or physical force to make them behave against their will or values, is wrong.
- Adolescents themselves are responsible for their behavior and its consequences.

- Open communication about sexuality as well as other aspects of relating is an important part of moving toward maturity.
- Adolescents should have access to accurate information about all aspects of sexuality.
- Parents have the prime responsibility for their children's sexuality education, with schools and other community resources functioning as the parents' partners in this effort.
- Sexual feelings are natural and normal for teenagers, though they should not necessarily be acted upon.
- Teenagers should postpone becoming parents until they are adults.

Reaching the Target Group

The LSO curriculum was designed specifically for STEP's target population: low-income 14 and 15 year olds who are having difficulty in school, who are members of a wide variety of racial and ethnic groups, and nearly half of whom are already sexually active.

As a result, information is presented in a format and language designed to actively involve these teenagers in discovering and considering issues central to their lives. Lectures are few and brief, and allow immediate exchanges between the teacher and the students. Discussions are the rule, either involving the whole class or groups of six or fewer students, to be sure that everyone is able to participate. Brainstorming is encouraged: the leader poses a problem, participants suggest solutions, and the group evaluates the alternatives and picks those it considers most realistic or useful. A similar scenario is followed in small group activities, which consist of participatory exercises that directly involve students in a learning experience. Games, role-playing, audiovisual materials and guest speakers are all employed to make the issues clearer and more vivid.

Clearly, leading LSO classes effectively requires teachers with not only special characteristics but also a close acquaintance with the objectives of the curriculum. The teachers' manual that introduces the curriculum spells out in detail the criteria for a good leader, describes the small group process, discusses group dynamics that teachers will be expected to understand and handle constructively, and suggests ways of facilitating the formation of mutually supportive groups, handling behavior problems, setting up the program and being sensitive to ethnic differences among students. Preparation and training of LSO teachers is greatly

facilitated by a series of videotapes available to new LSO programs.

Linking Primary Pregnancy, Prevention, Education and Employment and Training

Among the lessons STEP has taught is that teen parenting issues can be successfully addressed in the context of employment and training and education initiatives. Teen parenting and sex education programs often take place in a vacuum, unconnected to other issues that youngsters must face. And education and job training efforts have all too often ignored the social, emotional and physical developments youngsters are experiencing.

P/PV's research suggests that LSO helps STEP youngsters increase their knowledge about sex and contraception without increasing their initiation of sexual activity. At the same time, these youth gain academically, acquire work experience and earnings, and increase their feelings of competence and possibility in facing the future.

This success shows clear promise for other job training programs, and reinforces findings from other research that youth serving programs are most successful when they address multiple needs in a comprehensive approach.

P/PV wishes to disseminate its programs and offers to assist existing programs wishing to enrich their service mix through adoption of the LSO curriculum. The curriculum, other materials and training sessions will be offered to programs selected on a competitive basis.

C. Bridging the Gap - Salvation Army

The mission of the Salvation Army has changed from that of rescue to prevention. Their program "Bridging the Gap" is clear evidence of this shift in emphasis. It is designed to help youngsters change their life paths. Many of the young people with whom the Salvation Army works come from low income homes and neighborhoods with few positive role models to guide them. Physical survival often determines their behavior choices. They have little knowledge about their physical and emotional development to guide decisions. They have little hope for a better future and can see no way to influence their life options. This program is designed to provide them with the motivation, knowledge and skills to change their lives and have a brighter future.

The Bridging the Gap program was developed under Title X Family Planning and Population Research Grant, through the Bureau of Community Health Services. It initially included 650 teenagers

in 23 sites, in eight eastern states as participants and controls. The programs were sponsored by the Salvation Army and a variety of Community Agencies. Collaborators included churches, Boy Scout groups, residences for young people with special needs, parochial schools, community center youth groups and alternative public school programs.

The goal of the program is to help young people take charge of their own lives based on self-respect, information about their physical and emotional needs, and knowledge and skill in using community services.

The Bridging the Gap program is premised on several beliefs: that all young people can make good decisions about their lives if they are given help; that they need and will use help in understanding themselves, their feelings, their bodies, and their relationships with peers and family; that this help must come from adults who care about them individually, are interested in them personally, who will be supportive, and will help them build the capacity to take charge of their own lives; and that knowing what resources are available in the community and guarantee of access to these resources is an integral part of ability to change.

Program Content - Overview

The program is divided into three broad content areas. These cover major aspects of adolescent experience and are taught in twelve units. The major areas are:

- 1) Practical approaches to building self-respect and developing a set of values to live by.
- 2) Information about physical and emotional development including sexuality
- 3) Information about the range of community resources available and how to use them.

Building self-respect is viewed as the most critical component of the program. The core elements include the following: positive sense of ethnic and cultural identity; understanding of others; awareness of the importance of relationships and their interdependence; awareness of the ability to exercise control over one's own life; principles of decision-making, self-understanding, including drawing up a personal bill of rights and responsibilities. Also included are: help with personal appearance, help with study skills, with essentials in applying for work, learning good work habits and money management. Knowledge base and perspectives are widened by visits to areas beyond the home neighborhoods, to historic sites, and to neighborhoods that exemplify varying value systems. The young people learn the social

skills of how to be part of a group. They learn self-discipline and how to deal with stress without resorting to unacceptable or violent behavior.

Physical and emotional development and developing personal responsibility for health are the goals for this part of the program. Nutrition, exercise, substance use and abuse, and avoidance of disease are included. Studies show that young people are misinformed or ignorant about their bodies and about sexual behavior. Factual information about the human body, about conception, and about contraception is presented. The potential outcomes of sexual intercourse, of pregnancy, sexually transmitted disease, and role of emotional commitments are discussed. Also, dealt with are sexual drives, understanding the need to be loved, identifying many ways to show love, learning how to deal with feelings. The adolescents are taught to recognize and deal with peer pressure. There are discussions of the frequently used "lines" and pressuring arguments. Possible resistance responses are elicited and practiced.

Use of community resources is an integral part of the program. Community leaders, counselors and service providers meet with the groups to explain their services and facilities as well as to serve as a personal contact. In turn, the adolescents go out to visit facilities in the community to enhance their familiarity and to encourage future use.

Implementation

The program is designed to be sponsored by a community service agency. This can be youth serving, religious, health, education, or a counseling agency. The sponsoring agency must have values that are congruent with the program before a decision to put the Bridging the Gap program in place is agreed upon.

Leader

The quality of the group leader selected is seen as the key to the quality of the program. This person must believe in young people, be committed to helping them become mature responsible adults, and be a good role model. Several personal attributes are essential: even-tempered and non-judgmental, clear about personal values and personal priorities, and capacity to respect and to work comfortably with diverse cultures and values. The leader may be chosen from current staff members or be a person brought in especially to direct the program.

Participants

The program may be used with already formed youth groups who have continuing peer relationships, or groups may be newly formed and brought together specifically for this program. With some adaptations, the program as presented here is also suitable for young people with special needs or unusual problems. It can also be adapted for incorporation into activities of an ongoing youth program.

Group Composition

Boys and girls may meet together or separately. The age range should be narrow. The suggested age ranges are 12 - 14 and 15 - 18. The optimum size is 6 to 10 participants. A group up to 12 members could be handled by an experienced leader. Fairly homogenous groups are apt to be less difficult. However, a mixture of ethnic and cultural backgrounds broadens each person's learning.

Timing and Sequence

The program is planned for twelve sessions of 90 minutes each. The amount of time and the number of sessions to be given to each topic will depend somewhat on the interests, knowledge, and age composition of the group.

Parent Involvement

It is important to involve parents and gain their support for the program. An invitation to parents or guardians to a preview session with the potential community participants is a useful first step. The summary of program units can be given out along with a discussion of how the program will be implemented. Parents and guardians can also be invited back for the part of the final session when certificates are awarded to the adolescents. Including parents and guardians as part of the program has the additional benefit often of opening the door to easier communication between adults and their teenagers.

Community Resources

It is important to involve appropriate community resources in the program. For each unit of the program it is essential to discuss the community services that would be available and helpful. There are many reasons to facilitate contacts between community resource persons and the adolescents. The community resource persons bring added expertise and broadened perspectives to the group. Equally important is the fact that the youngsters are more

likely to actually use a resource if they have met the people there and visited the facility.

Materials and Content of Program

The Leader's Guide - this book describes the entire program and also contains a manual that provides a framework and curriculum materials for each program unit. Curriculum pamphlets, books, and audio-visual resources are listed for each unit. Some items are made available such as pamphlets and books, e.g. Teenage Body Book and Boys are Boys and Girls are Girls. The recommended materials are relatively inexpensive. Some are free and available from national agencies or their local affiliates. In addition to the listed resources, newspapers, magazines, radio, and TV give valuable current information. Films are useful as a discussion starter.

Twelve Units

Unit One introduces the program to the participants, allows them to get to know each other and to create a sense of the group. It also begins to teach them to recognize feelings in themselves and others.

Units Two and Three are to help participants gain a sense of self-worth and self-respect; to gain a sense of ethnic and cultural identity; to recognize that we are interdependent people and our relationships with others are important; and to become aware of ones' ability to make decisions and, therefore, personal responsibility to exercise control over ones' own lives.

The five content areas of these sessions are:

- 1) Getting acquainted
- 2) Self
- 3) Getting along with others
- 4) Making decisions about one's life
- 5) Drawing up a personal bill of rights and responsibilities

Unit Four deals with learning money management; acquainting participants with community education and training resources (also learning how to use these to full advantage); and showing the interrelationship of education, training, employment and life goals.

This unit's three content areas are:

- 1) Planning how to use money
- 2) Understanding take-home pay

- 3) Getting what is needed out of education and training systems.

Unit Five tries to increase the participants' awareness of how work affects their lives, of the value and necessity of having employment, provides information about resources for finding employment, how to prepare for a job interview, and what to do to keep a job.

The four content areas of this unit are:

- 1) What kind of employment do I want?
- 2) Finding a job
- 3) Interviewing for a job
- 4) Keeping a job.

Unit Six is to help the participants become familiar with systems that affect their rights and responsibilities as citizens, including voting, taxes, juvenile and adult justice systems, and personal involvement in community affairs.

This unit includes two content areas:

- 1) Legal rights and responsibilities
- 2) Promoting community involvement.

Units Seven and Eight are to learn about how the body functions, to initiate and sustain good health care habits, to learn how to identify behavior responses and the potential impact on physical and emotional health, to become informed about the consequences of substance abuse, to consider the potential complications of sexual activity, to learn about community health resources and how to use them, and to encourage participants to evaluate the community services designed to meet their health needs.

The seven content areas are:

- 1) Staying in physical shape
- 2) Nutrition
- 3) Keeping a personal health record
- 4) Handling stress
- 5) Substance abuse
- 6) Sexually transmitted diseases
- 7) Community health services - how to use them.

Unit Nine is for the participants to increase their knowledge about relationships, sexuality, and sexual behavior; to get in touch with their own feelings about sexual activity and their personal values regarding sex; and to build knowledge about community resources that deal with sexual relationships.

The three content areas of this unit are:

- 1) Sexuality
- 2) Sexual relationships
- 3) Readiness for sexual involvement.

Unit Ten is to encourage the participants to clarify their values about the decision to marry or not to marry and to consider the responsibilities of marriage.

The three content areas are:

- 1) What to look for in a love relationship
- 2) The qualities of a good marriage
- 3) Marriage responsibilities.

Unit Eleven is to develop a better understanding of what it means to be a responsible parent, to learn about the physical and emotional needs of children, and to clarify the values regarding whether or not to become a parent.

The four content areas are:

- 1) The basic physical and emotional needs of children
- 2) Good mental health habits start early
- 3) The well-planned decision to parent or not to parent
- 4) Review and wrap-up.

Unit Twelve is a review of what has been learned and what the program means to the participants. It is the time for student evaluation of the programs effectiveness. Certificates for completing the program are awarded and a possible reunion is planned.

Evaluation Studies

Evaluation of the program was built in from the beginning. Dr. James C. Petersen of the Center for Informative Evaluation in Tucson, Arizona worked with the staff and leadership team in developing the program's design and evaluation instruments. The principal instrument used is a questionnaire called, "An Interesting Survey About You." This is used at the first and last sessions of the program and measures self concept, knowledge, and coping skills.

The purpose of the evaluation of the Bridging the Gap Project was to (a) provide the Salvation Army with process information to guide them in the development of the program curriculum, (b) to assess the impact of the Bridging the Gap Project on youth participants as compared to control adolescents, (c) to determine how youth feel about various contemporary issues and topics, and

(d) to assess what they know about community resources and how they would use them.

Evaluation Questions

The Salvation Army articulated and the evaluators clarified several general evaluation questions. These questions became the focus areas of the evaluation because they represented the primary focus areas of the Bridging Program.

- Do the youth participants know more about human sexuality and related issues at the end of the program as compared to the beginning?
- Do the youth participants show a change in their attitudes and opinion about human sexuality and related issues at the end of the program as compared to the beginning? If so, what is the nature of the changes?
- Do the youth participants evidence a more positive self-concept at the end of the program as compared to the beginning?
- Do the youth participants know more about their own community resources at the end of the program as compared to the beginning?
- To what degree was the Salvation Army able to link with community agencies to provide the program to youth?
- What are the characteristics of the youth who participated in the program?
- How do the youth participants evaluate the experience they had in the Bridging the Gap Project?

Data Collection Instruments

These research questions were sub-divided into a series of knowledge, attitude, and demographic focus questions and then organized into an evaluation questionnaire called, "An Interesting Survey About You."

- AN INTERESTING SURVEY ABOUT YOU - This survey was divided into the following sections:

Demographic information
Knowledge about community resources
Personal judgement about use of various resources
to prevent problems

Self-Concept/Self Esteem
Personal values
Assessment of the Bridging the Gap Program

- TENNESSEE SELF CONCEPT SCALE

A standard self-concept scale

- COMMUNITY CONTACT FORM

A behavioral measure of contact with community agencies by the Salvation Army project staff.

Data Analysis

The information from the evaluation instruments yielded three types of data: behavioral, knowledge and attitudinal. Data were analyzed and summarized according to the following format:

"Bridging" vs. Comparison
Male vs. Female-"Bridging"
Male vs. Female-Comparison

Data were analyzed using The Analysis of Variance - Repeated Measures. This procedure was applied to the knowledge-based questions and the data from the Tennessee Self Concept Scale. All questions from the "An Interesting Survey About You" were item-Analyzed.

The research shows that youth in the Bridging the Gap program made substantial gains in knowledge about themselves, the community, and its resources. The majority of the participants reported that they felt that they learned from being in the program and that it added to their self confidence and a more positive self image. Participants said they would recommend the program to others.

Fidelity of implementation was not assessed.

VI. PROMISING NEW CONCEPTUAL MODELS

The school-based models described earlier are designed for traditional schools. These life skills programs target their efforts directly at the individual child in the classroom. Their programs are inserted into an existing typical school structure with as minimal disruption as possible. There is another approach which seeks to bring about changes in the children's academic and social growth through a restructuring of the school as a system. This approach rests on the belief that interventions and programs focused on discrete groups or areas, no matter how good in content or implementation, are limited in their potential for long-term effects.

There is now a considerable literature based on studies in organizational psychology, social psychology, sociology and research in child psychiatry that finds the school climate to exert a potent impact on the social and academic development of students. School climate appears to play a particularly important role for minority and disadvantaged children. A classic longitudinal study (Rutter, Maughan, Mortimore, & Ouston, 1979) shows that 14 school climate variables account for about 44% of the variance in mean school achievement in white sample and over 79% in the black school sample.

The 14 climate variables include student, teacher, and principal variables. Student factors include: sense of academic futility; future evaluations and expectations; present evaluations and expectations; perception of teacher "push" and teacher norms; the school's academic norms. There are five teacher factors: teacher's ability, evaluation, expectation and quality of education; present evaluation expectations of successful high school completion; teacher commitment to improve student performance; teacher's perception of principal's expectation; teacher's sense of academic futility. The principal's factors include: level of parent concern and expectations for quality education; efforts to improve; principal and parent evaluation of present school quality; and principal's present evaluations and expectations of students.

A. The School Development Program

A major goal of the School Development Program is to create a schooling environment that will make it possible for disadvantaged and minority children to fulfill their unused potential. Inner city children, in particular, may proceed through school with a legacy of prior experiences and deprivations that derive from the social stress of impoverished homes in disadvantaged and poverty neighborhoods. They can be underdeveloped in social competencies, academic and life skills.

Schooling itself, for them, often becomes an incremental step in a lifetime pattern of cumulative adverse outcomes and lack of preparedness for effective functioning as adults. The School Development Program incorporates life skills training as a component of comprehensive design for restructuring school governance and implementation of a new system for teacher roles and functioning, parent participation and programs geared to promote the healthy growth and development of these inner city children.

In 1968 a collaborative effort between the New Haven School System and the Yale Child Study Center was initiated by Dr. James Comer to develop a comprehensive plan for a systems level intervention to restructure the school at the building level. The goal was to change the climate and effectiveness of dysfunctional inner city schools. The principal, teachers, support staff and parents are all represented in a governance and management group.

The New Haven School System-Yale Child Study Center collaboration has three project components and a training component for staff development. The key program component is the building level representative governance and management body commonly referred to as the School Planning and Management Team (SPMT). The school Mental Health Team consists of social workers, psychologists and mental health workers. It provides child development, psychosocial and relationship knowledge and skills to the activities of the governance and management body. It also has a strong prevention agenda. Parents support the program through participation on the governance and management body, and through academic and social activities that are developed through the management body working in collaboration with the school and its broader community. The Comprehensive School Plan outlines the goals and objectives developed by the SPMT. Each year a plan is developed that focuses on objectives to be accomplished in the key areas of academics, social climate, and staff development. The ultimate goal is to enable staff and parents to close the development gap of students and allow them to acquire the skills necessary to meet adult tasks in the mainstream of the society. The Staff Development Program implements training needs that arise from the school plan. Central office school administration supervisory personnel provide support for staff development activities initiated at the building level.

The "School Development Program," was institutionalized in 11 low income elementary schools in New Haven, and is being extended to all 26 schools. The approach is also being implemented in two middle schools with plans for future implementation in all seven middle schools. It is being implemented in one high school. We believe that such a curriculum is needed from elementary school (before if possible) through middle school, into high school. It should be anchored in the three School Development program

components and elaborated as a part of the comprehensive building plan, in line with the central office plan.

The social development curriculum is an important aspect of the program. Students are provided with relationships training, and experiences in a setting of positive expectations and trust. They learn and internalize new attitudes, values, and skills needed to be successful in school and in the mainstream world around them. In the elementary school years the experiences must be largely simulated. These are incorporated in Social Skills Curriculum for Inner City Children developed in the King and Brennan Schools. In the middle school years the school development curriculum will include simulated and also real world experiences to the extent possible and in collaboration with resources in the surrounding community. Programs of service to the community should be developed to channel youthful energy into constructive activities.

A major goal for predominantly minority students is to convey a sense of ethnic and racial pride, and responsibility while at the same time carefully preventing ethnocentrism and antagonism towards other groups. In fact, appreciation of the contributions and rights of all Americans should be a goal of the curriculum. The social science, history, and language arts departments should play a major role in developing such a curriculum.

The social development curriculum is coordinated with other special school programs such as the problem solving project, programs in the arts, athletics, future homemaking, future business, future science projects.

The evaluation of this program has been in terms of school achievement tests, number and severity of behavioral problems, student and teacher attendance, teacher requests for transfer and level of parental participation in school activities. Judged by these criteria, the program has been highly successful. The program has been disseminated to school systems in Benton Harbor, Michigan and Prince George's County, Maryland.

B. Rochester Schools Experiment

Students at Risk for Academic Failure and Personal Maladjustment

The primary goal of the new prevention program is to promote the personal growth and development of middle school and elementary school children and to enhance their academic achievement. The intervention is viewed as a theoretically-based action research project in which basic knowledge regarding motivating underprivileged youth will be gained along with specific strategies as to how public schools can be restructured to achieve the program's goals. This endeavor thus represents a theory based

research agenda geared toward institutional reform. The program is being created and implemented in an educational community where there is strong consensus on the need for reform and also where there is an established, working relationship with shared responsibility between a university-based team and the educational community. It takes place primarily in Rochester City School District (RCS D). This school district has evidenced its commitment to change and has received national attention with a radical new teacher's contract that included: dramatic increases in teacher pay (about 40% over three years), district commitment to school-based planning, increased classroom teacher autonomy, and standards of accountability that are geared to student performance. There is an explicit agreement to develop a middle school system that will enhance the early adolescent's engagement with schooling during this crucial developmental period. One central initiative is a commitment to implement a "Home-Based Guidance" program that expands the role of the teacher and gives each child daily contact with an involved teacher/advocate.

Undergirding this program is an awareness that there are substantial numbers of youngsters, particularly in large urban schools, who are burdened by economic and social impoverishment, but who do not meet the criteria for placement in special education programs. These children will not fulfill their personal and academic potential unless their schools augment current efforts to identify the nature of their needs and to adapt the schooling process to find new ways to enhance their functioning and foster success rather than ignore or even exacerbate their existing problems. Many of these youngsters are at high risk for dropping-out and other adolescent behavior problems.

In addressing this challenge of high-risk students, the Rochester School System formed a partnership with the Institute for Research and Reform in Education at the University of Rochester. James P. Connell and colleagues at the institute are designing a prevention program that is, at the same time, a major basic research study of the underlying psychological, social and institutional causes of school alienation and dropout. These scholars are basing their collaborative prevention program, in part, on empirical evidence that this collaborative process will enhance the probability of successful and long standing institutional reform. In addition, the prevention program is guided by a theoretical framework that seeks to explain why some students initially become impeded in their personal development and at risk of alienation and school dropout. The constructs in the theoretical model are the core elements of this theory-driven program and its assessment and refinement.

The specific elements of effective interventions that were compiled are as follows: adequate school physical facilities, effective staff preparation and development, support for students and teachers, relevant curriculum resources, attention to social

and emotional needs, encouragement of "learning by doing," facilitation of modeling effects, and internalization of values through active adult involvement with students.

Researchers at the University of Rochester have designed a theoretical model of student motivation, specifying a contextual and psychological factors thought to instigate and maintain the adaptive or maladaptive patterns of behavior. In this model, students are seen to have three basic psychological needs: competence, autonomy and relatedness. These needs interact with social relationships and with contingent school experiences to shape the students' beliefs about themselves in relation to school. These beliefs are referred to as self-systems and are postulated to influence the extent to which students are engaged (actively involved in tasks or activities) or disaffected (uninterested or alienated).

The social environment, in this case, the context of the school is believed to be crucial in influencing whether or not the students' needs for competence, autonomy and relatedness are met. Three aspects of the context are central to the new prevention program: structure, teacher involvement and encouragement of student initiative (autonomy). A moderate level of structure with clear expectations and consistent feedback has been associated with developing good strategies for academic success (a sense of competence). High teacher involvement with the individual student has been associated with more security in interpersonal relationships and higher self-esteem. Greater autonomy in the classroom as compared to rigidity and rote learning facilitates self-regulation and personal motivation. In an appropriate school environment students should feel liked and respected, understand clearly what is required to do well and have the skills and motivation to accomplish these tasks in a climate in which the teacher is willing to devote time and attention to them.

Implementation

The key element of the Rochester City School District (RCSD) intervention is a home-based guidance (HBG) program that is added to and is an integral part of the restructured school. Students in middle school will spend up to 40 minutes each day in home-based guidance activities. Home-based guidance teachers will be responsible for up to 20 students. The teacher role is seen as that of student advocate to provide information, support, and resources based on the individual needs of each student. Students and teachers will interact in non-academic activities designed to build awareness, skills and strategies in areas of personal adjustment as well as academic skills. The home room teacher also monitors the overall activities of the HBG students to detect academic or social problems. To facilitate a student-teacher relationship bond in which these goals can be accomplished,

students remain in the same HBG groups throughout their three years in middle school. In addition, the teacher acts as a liaison between home and school. How and when the contacts with the home are managed is left to the teacher's discretion. The collaborative research team is constructing a curricular framework and a set of activities designed to enhance students' experience of competence, autonomy and relatedness in three domains: academic skills, social relationships, and personal adjustment.

This framework has been initiated in two school systems, one urban and one rural/suburban, and at two school levels, elementary (grades 4 to 6) and middle school (grades 6 to 8). There will be one of the five middle schools that is selected as a "focus school" for intensive study. This exemplary version of the program will provide an important comparison with the other "average" schools as well give a highly enriched database. There are 1018 students in grades 6 to 8 in the "Focus" school. Demographically the students are 66% low, 10% middle and 16% high socioeconomic status and 50.8% Black, 11.2 % spanish-speaking, 35.5% white and 2.5% other.

Evaluation

Evaluation will be carried out using instruments designed to measure the variables of theoretical interest for this study. They have been pilot tested and have been shown to be psychometrically sound. These instruments are the Rochester Assessment Package for Schools (RAPS). There are self-report versions for student (RAPS-S), teacher (RAPS-T), parents (RAPS-P). There is a RAPS-O version that is designed to be used by trained observers to record samples of actual teacher behaviors and to evaluate the classroom environment. In year I there will be two data collection points and in years II and III data collection will be repeated. Children will be identified and their progress also monitored over the three years by the 5-Flag At-Risk Classification System. These five flags are: school attendance, match of age for grade, short term school suspension, long term school suspension and scores on standardized math and reading tests. It is believed that the size of the study and the intensive, multi-method assessment in the Focus school will permit precise comparisons: a) among sets of preventive strategies differing in degree or quality of implementation; b) among students of differing characteristics; and c) between elementary versus middle school intervention. The longitudinal aspects of the study will permit analyses to be performed relating to the outcomes as a function of length of time in the program and age at entry and variation in the program's characteristics over time.

C. Community Prevention of Alcohol and Tobacco Use

There has been an emergent trend during the past decade to shift the focus in problem behavior prevention and health promotion from the individual to the community. This shift is due, at least in part, to the recognition that the sociocultural environment exerts a powerful influence on the shaping of that individual's norms, values, and behaviors. Consequently, to be optimally effective, health promotion interventions designed to influence individual behavior should not only take these environmental factors into account, but they should actively intervene to maximize their positive effects and to minimize their negative effects. This is the fundamental principle which underlies comprehensive community based health promotion interventions: that individual behavior changes that are brought about by focused individual or group approaches are more likely to be sustained if they are facilitated by a supportive environment within the community.

The growing awareness of community as a vehicle and adjunct for health promotion and problem behavior prevention comes at a time when there are effective prevention approaches targeted at alcohol and tobacco use among mainstream adolescents. However, these state-of-the-art preventive interventions now need to be adapted and tested for effectiveness with minority and disadvantaged youth who are at greatest risk for problem behaviors and who have also been neglected by the bulk of past prevention research studies.

The Steven P. Schinke research project is designed to test such preventive interventions in a carefully controlled study. The five primary intervention components are: (1) Community organization, (2) Structured School-based curriculum, (3) Semi-structured curriculum, (4) Mass media, and (5) Organizational policy and legislative change.

The goal of a comprehensive community-wide intervention is to create and to maintain a variety of "synergistic effects." Those effects will occur when program components combine to produce results that are greater than those which would be expected from the implementation of each component individually. The comprehensive approach to intervention planning draws on concepts from social learning theory, community psychology, diffusion and adoption research, communications research, community organization, and community-based health promotion research.

Specifically, the program is based on the notion of social modeling and informal networks of reinforcement as the key processes in diffusion of desired behaviors. This concept has been developed and tested for feasibility in Finland and in the border region of Southwest Texas.

Community Organization

Community health promotion interventions are defined as those which:

1. have the potential for influencing specific health habits;
2. are designed to facilitate and to reinforce behavior change in individual and groups by working through existing community structures such as newspapers, TV, radio, health care facilities, work places, churches, schools, clubs, organizations, other public places, private homes;
3. are reinforced by peer group influence and social support; and
4. are maintained by the mobilization of natural community networks and existing services.

The guiding principles of the community-based approach are as follows:

1. It is necessary to elicit active community involvement, not just representation from selected community members.
2. During the project planning and protocol development period it is necessary to carry out a comprehensive community assessment which will inform the planning process with respect to existing relationships and power structures within the community.
3. A focus on long-term rather than short-term planning and on goals for maintenance of the project by using community resources after the pilot project funding ends.
4. The intervention design must take into account the degree to which behaviors such as tobacco use and alcohol use are multiply determined.
5. The effectiveness of the project will be determined by the degree to which the intervention meets the sociocultural framework of the target community.
6. The community as a whole must to share in the responsibility for the socioeconomic burden created by tobacco and alcohol use. It must view itself as both a source of the problem and as a potential source of a solution. Accordingly, the intervention program must fit into this framework.

A key element of the community-based intervention is the use of role models in "saturation" media co-productions involving news, public affairs, and human interest reports. Media events are planned to sequentially follow stages of learning. A "calendar" of daily role model stories is distributed throughout the community in advance.

A second key element is the recruitment of volunteers from the community to distribute the calendars. Volunteers explicitly encourage observation and imitation of role models and provide verbal reinforcement for successive approximations toward desired behaviors.

Research has demonstrated that the most effective health promotion campaigns are those whose messages are clear, coherent, consistent, compatible with the values of the target group, and flexible enough to effectively influence individuals at different points along the behavior change continuum. These are the ingredients of the communication-behavior change model described by Farquhar et al. (1985). Interventions are conceptualized as a series of communicated messages with highly specific characteristics for the messages, source, channel, destination and receiver (target audience factors).

Structured School-Based Curriculum Component

A Life Skills Training (LST) program adapted from Botvin (see pages 37-43) targeting junior high school students is used. This comprehensive curriculum is designed to provide the specific knowledge and skills to resist both internal and social pressures to smoke, drink or use drugs. At the same time, generic, personal and social skills are taught in order to enhance overall personal competence. The LST program was designed to focus on the "gateway" substances: tobacco, alcohol, and marijuana. The rationale for focusing on these substances is two fold. First, these substances are the most widely used substances in our society. They occur at the beginning of the developmental sequence of substance abuse. Consequently, an intervention effectively impacting on these behaviors should also prevent individuals from becoming users of other psychoactive substances. The curriculum targets junior high school students because they are at an age when decisions are first made about the use of these drugs.

The specific objectives of the LST program are: (1) to provide students with the necessary skills for resisting direct social pressures to smoke, drink, or use drugs; (2) to decrease general susceptibility to social influences to engage in substance use by helping students to develop greater autonomy, self-esteem, self mastery, and self-confidence; (3) to enable students to effectively cope with anxiety, particularly anxiety induced by social situations; (4) to increase students' knowledge of the immediate consequences of smoking and to provide accurate information concerning the prevalence rates of tobacco, alcohol, and marijuana use; and (5) to promote the development of attitudes and beliefs consistent with non-substance use.

Some of the general cognitive-behavioral techniques incorporated into the LST Program include the following:

1. cognitive strategies for enhancing self esteem (e.g., goal-setting, behavior change techniques, replacing negative self statements with positive ones);
2. techniques for resisting persuasive (advertising) appeals (e.g., identifying persuasive appeals, formulating counter-arguments);
3. techniques for coping with anxiety (e.g., relaxation training, mental rehearsal, guided imagery);
4. verbal and nonverbal communication skills
5. social skills (e.g., initiating social interactions, conversational skills, heterosocial ("dating") skills, complimenting and receiving compliments);
6. assertive skills (refusals, requests, expressions of feelings).

These skills are taught using a combination of instruction, modeling, rehearsal, feedback and reinforcement, and extended practice through homework assignments.

In addition to providing students with general life skills, this prevention strategy also teaches skills and knowledge more specifically related to substance use/abuse. For example, students are taught how to use general assertiveness skills to resist direct interpersonal pressure to smoke, drink, or use drugs. Thus, students are taught a wide range of personal and social skills in order to improve their general competence and also to resist potential substance use motivations and pressures.

The intervention requires 15 classroom sessions. Each is designed for a 45 minute class period. Depending on school constraints, frequency of presentation varies from one session per week to five sessions per week. The relative efficacy of each teaching schedule will be evaluated.

The curriculum is designed for students in grade 7. All students will be given additional "booster" sessions in 8th grade. This booster curriculum is intended to reinforce the learning of the prior year and is sensitive to age and grade appropriate tasks and challenges. For example, 7th graders entering JHS will likely find making friends, "acting older" and having fun to be salient while the older 8th graders may require more emphasis on stress reduction, dealing with boredom and/or loneliness and dating and sexuality.

"Boosters", given in years subsequent to training, have been shown to substantially enhance the effectiveness of intervention programs. The booster curriculum consists of eight 45 minute sessions given at a rate of two sessions per week.

Implementation

The program pays careful attention to aspects of dissemination and implementation. Specific, sequential steps are given for each component.

School recruitment procedures are outlined in an 11 step protocol that begins with obtaining introductions and letters of support from state and regional officials prior to preliminary contact with the district School Superintendent to propose the intervention. The strategy uses a top downward involvement and approval process throughout the school hierarchy. In the recruitment process, teachers are observed teaching their regular classes and recorded on a Teacher Screening Observation Form. They are judged for their appropriateness to the intervention. PTA and local School Boards are informed and their endorsement is solicited. The final step is to obtain a formal letter of agreement from the school.

Teaching of the Curriculum

Based on prior research that shows the efficacy, strengths and weaknesses of same-age or older peer-leaders and classroom teachers, the intervention will use a combination of classroom teachers and same-age peer leaders as a teaching team. Same-age peers had high credibility with students, but lacked the teaching and classroom management skills to implement a curriculum, even with training. Older peers (high school students) were able to carry out the tasks with training, but were usually at different or distant schools. This intervention gives classroom teachers primary responsibility for presenting the curriculum and same-age peers will act as their assistants.

Peer leaders are selected by a sociometric process in which students nominate two students whom they admire and respect. The highest ranking students who do not smoke or drink are chosen and trained. These students also certify in a written statement that they do not smoke or drink.

Teacher training is carried out in a one-day six hour workshop by project staff. The goals of this workshop are to introduce the rationale and goals of the program, to describe the curriculum materials and to provide a session by session analysis of the curriculum materials. Considerable time is spent on teacher role-plays, demonstrations and simulations of desired implementation. An emphasis is placed on the difference between the teacher's role in regular classes and the teacher's role as coach and facilitator in the intervention program. A detailed Teacher Training Manual is being developed.

Peer leader training is carried out in a 3 hour training workshop by project staff. Initial discussion focuses on health problem issues and is followed by familiarization with the purposes and content of the program. Roles and responsibilities of peer leaders are clarified. Prior to each session an informal briefing of the peer leaders will prepare the students for their specific roles and responsibilities.

Semi-Structured Curriculum Component

The semi-structured curriculum component consists of a series of guided learning activities for high risk groups. These guided learning activities can be implemented in any order and in a variety of community based settings. Some of the activities require the involvement of a trained adult (e.g., parent, minister, and similar lay or professional adults). The semistructured curriculum will offer a set of preventive intervention components that parallel those included in the structured, life skills training, intervention curriculum. In so doing, the semistructured curriculum intervention will suit the needs of a wide variety of community settings. Intervention delivery in these settings can benefit from a set of previously developed and tested alcohol and tobacco use prevention components that do not demand a tightly structured curriculum and format for their community implementation.

Young persons who have problems with family, school, authority or peer group relations are known to be predisposed to substance abuse. Professional and support staff involved in the intervention will serve 600-900 young persons (5-7% of all age-appropriate) per year.

Drop-Outs/Possible Drop-Outs

Staff will provide, in connection with school counselors, individual counseling, and a semi-structured curriculum for small groups of students with attendance problems or for those at risk of failing a grade.

Violators, Perpetrators and Victims

Persons under the age of 18 who are charged with violations of the law or who are victims of violent or property crimes will be encouraged to attend the semi-structured curriculum also. This may be required by judicial action under Texas law. Approximately 30 persons per month are anticipated in this subcomponent.

Children of Alcoholics/Drug Abusers

Adults charged with crimes involving alcohol or drug abuse will be asked to enroll their children in the semi-structured curriculum. This group's curriculum will include advice and referral appropriate to children of alcoholics.

Mass Media Campaign Component

The foundation of the mass media public health promotion program are Bandura's social modeling and social support theories. According to Bandura, behavior can be elicited through the presentation of a role model (either a live model or TV model) who serves both as an example of and as a cue to a desired behavior, as well as a source of higher efficacy expectations ("If X can, I can.") The role model also functions as a source for new behaviors acquired on a cognitive level (i.e., the person learns how to perform the behavior).

The learning and performance of the behavior depends upon reinforcement in the form of cueing and feedback. The importance of feedback via encouragement and reinforcement has been illustrated in several studies in which the acquisition of complex behaviors has been undertaken. Role modeling has successfully taught social competency and social skills to children.

Marketing researchers and advertisers have long known that mass media has a tremendous capacity for modeling desired behaviors. Yet it is only recently that modeling has been systematically used to influence individuals to engage in behaviors which not only benefit them, but also benefit the entire community.

With regard to public health promotion, a series of longitudinal studies conducted in Finland aimed at reducing cardiovascular disease have demonstrated the effectiveness of using role modeling through mass media (Vartiainen, Fallonen, McAlister, Koskela, & Puska, 1986). These studies used a television series to broadcast the efforts of a group of "average" Finns in their attempts to change health related behaviors. The television program modeled skills for smoking cessation, weight loss, dietary change (including moderation or cessation of alcohol consumption) and physical activity. Viewership rates were high, with 27% or more of the national audience following these programs and 5% to 25% of those making some meaningful changes.

Several theoretical frameworks guide the planned media intervention. The first examines how mediated communications contribute to different stages of the behavior change process. Under conditions of high "involvement," the process of change can be divided into several more-or-less distinct steps: attention, understanding, decision, and learning.

Different conceptual features of mediated communication make unique contributions at different steps of the change process. Channel selection, frequency of presentation and attractive "packaging" of messages are major factors which influence exposure and attention. Understanding the messages depends on language, simplicity, illustration and analogy. Decisions are influenced by presenting incentives for and natural consequences of the new behavior. Learning is facilitated by modeling demonstrations of realistic new skills and coping responses.

Another set of concepts underlying the media interventions are derived from theoretical models of diffusion of innovations, and research on the diffusion of health knowledge, attitudes and practices in populations. From an assessment of the stages of diffusion, inferences are be drawn concerning the types of people most likely to be ready to adopt at the next stage and the types of messages, methods, appeals, communicators, and channels or media to which they would most likely respond.

In addition, the media have key functions of status conferral and agenda-setting. Program staff, cooperating school personnel, young volunteers and others associated with the campaign will have an opportunity to gain prestige by appearing in local media. The daily reports combining news and "human interest" will influence the topics discussed in informal settings (e.g., between classes at school: "Did you see ____ on TV?").

The practical arrangements for enacting this abstractly-defined media plan are straight forward: Top-rated media outlets for youth in each channel (e.g., TV, radio) and their most influential figures (e.g., weather persons, disc jockeys) are identified. The newspaper is approached with an offer to buy twice weekly quarter-page advertisements for the media campaign. As a "pro bono" to recognize the non-profit, public service nature of this work, the newspaper will be asked to also run twice-weekly role model stories. When the agreement is final, the radio, TV and other people outlets will be approached and offered leading "plugs" in the newspaper advertising that is being purchased.

This combines to enhance the public image which provides incentive for television broadcasters to co-produce role model stories as part of local news broadcasts. Radio stations are highly cooperative if some time is purchased typically providing 5 to 1 "pro bono" for role models and/or promotional announcements and extremely heavy saturation, i.e., up to 5 spots per hour in after-school time (4-5:00). Monthly calendars will provide the media topics and schedules, as well as news and information about the other project components.

Study locations are provided with staff, materials, training and assistance for community programs.

Organizational Policy and Legislative Change Component

The organizational policy and legislative change intervention are designed to ensure that the preventive intervention effort will continue after formal funding ends. This component provides guidelines for other communities to adopt and profitably apply the prevention technologies developed and tested in this study.

For instance, local community leaders will be reached through decision making guides. Developed expressly for the proposed community-based prevention project, decision making guides will follow a step by step sequence in helping local government, the private sector, and voluntary agency leaders in initiating and maintaining an alcohol and tobacco use prevention program for their communities.

Other activities will seek to influence adolescents' smoking and drinking at the community level. These activities will include regulatory policies such as those regarding smoking and drinking in public places and the formulation of policies and laws to support the proposed preventive intervention activities.

A community behavioral "norm" discouraging any involvement in smoking and drinking will be encouraged. A general norm will be set which opposes chemical alteration of mood and perception.

D. Violence Prevention Project

Introduction

Over the past 30 years, adolescents are the only age group in the United States that has not participated in the general improvement in health status that most Americans have enjoyed over the past several decades. Data on intentional injury indicate the existence of a major national problem. Homicide is the second leading cause of death for 15-24 year olds in the United States, and the leading cause of death for adolescent and adult Black males. Although females have lower homicide statistics, they are involved in fighting behaviors and are often saved from serious injury only because they carry weapons less frequently.

Adolescents and young adults are two times as likely as older adults to be victims of violent crimes. More than 1.8 million 12 to 19 year olds were involved in violent crimes in 1987, and 1,592 children and youth were arrested for murder. Many children's greatest fear at school is aggression by other children. Those fears are well-founded since one-third of the assaults against younger adolescents occur in school. Typically, the violence takes

place between students who know one another and starts as the result of an argument. Out-of-school violence is also prevalent and, again usually involves acquaintances or family members.

Traditionally, police and the courts are largely ineffective in preventing "crimes of passion" among people who know one another. The intimate and spontaneous characteristics of adolescent violence render it unlikely to be affected by punitive, after-the-fact interventions. However, these same characteristics place acquaintance violence in the realm of public health.

Successful public health strategies for injury prevention have been those aimed at the prevention of unintentional ("accidental") injury. Strategies for preventing these injuries have depended heavily on technological "fixes," environmental manipulations and legislative mandates, and depend minimally on voluntary behavior change. These strategies can be expected to be minimally effective in the prevention of intentional injury. A safety lock on the trigger of a handgun could be expected to reduce unintentional firearm injury, but could not be expected to have that same effect on intentional shootings.

Violence can be viewed as a learned response that has high priority in coping with environmental stress. Adolescents are at high risk of such responses because of the physical and psychological changes associated with puberty, including confrontations related to the need for increasing autonomy, rising hormone levels and conflicted social situations for which they lack alternatives and more competent strategies or social skills.

Self-consciousness and narcissism make adolescents vulnerable to embarrassment and peer pressure. Identification with the macho male image often mandates use of violence. However, the developmental period of adolescence is also an appropriate stage for the prevention of violence. Normative experimentation with both behaviors and values offers an opportunity to develop alternatives to violent responses to the anger, and to instill these values and behaviors as their new norms for adolescence--and adult life.

The recognition of interpersonal violence as a public health problem opens up new approaches to the prevention of adolescent violence. Adolescents who use violence are often mirroring images they see at home or on television and other media. From this perspective, appropriate prevention strategies include positive media messages, learning of social signals of risk and skills for risk avoidance, conflict resolution techniques, and behavior modification.

Specifically, the prevention strategies and interventions that have been successful in dealing with other major behavior-related

health problems can begin to be applied to the problem of adolescent violence.

The Violence Prevention Project (VPP) of the Health Promotion Program for Urban Youth under the direction of Linda Bishop Hudson, is a multi-institutional, broad-based initiative designed to reduce the incidence of interpersonal violence among adolescents and the associated social and medical hazards. The project's goal is to decrease the number of fights, assaults and intentional injuries occurring to adolescents as a result of violent interactions with peers. The objectives are to: (1) train providers in diverse community settings in a violence prevention curriculum targeted to adolescents; (2) encourage and facilitate the incorporation of this curriculum content into the delivery of their services to adolescents; and (3) create a new community consensus supportive of violence prevention.

The project, based at Boston City Hospital, targets the neighborhoods of Roxbury and South Boston. It has four components: curriculum development, community-based prevention education, clinical treatment services, and a media campaign.

Curriculum Development

In 1983, as part of the Boston Youth Program, a comprehensive health care initiative for adolescents, Dr. Deborah Prothrow-Stith developed a ten-session curriculum on violence prevention to be used in high school health education classes. The curriculum was taught in an active cooperative learning format with emphasis on discovery techniques and reasoning skills. Some role playing was involved. The curriculum was designed to:

1. Acknowledge anger as a normal and potentially constructive emotion.
2. Provide hard-hitting facts that alert students to their high risk of being the victim or the perpetrator of an act of violence.
3. Create a need in students to find alternatives to fighting by discussing the potential gains and losses.
4. Offer positive ways to deal with anger and arguments, the leading precipitants of homicide.
5. Allow students to analyze the precursors of a fight and to practice alternative conflict resolution through role-plays and videotaping.
6. Create a classroom climate that is nonviolent and that values violence prevention behavior.

The curriculum has been pilot tested with tenth-grade health students in one public school over a three-year period and with 450 students in six diverse Boston-area schools during the curriculum development process.

Community-Based Education

During the initial stages of curriculum development it became clear that intervention in the schools alone was insufficient. Children also required a supportive environment in the community to buffer the violent social pressures in all other aspects of their lives. A community-based violence prevention project was initiated in November 1986 and will run through 1990. The message of violence prevention and non-violent options learned in the schools would thus be reinforced.

The community-based component of VPP is the most important aspect because it has the broadest base, the widest impact, and provides the momentum and support for the more restricted hospital- and school-based efforts. Without community support for violence prevention, the education learned in clinical or school settings would have only limited effect.

The neighborhoods selected for intervention were chosen on the basis of adolescent homicide statistics, the only well-documented violence outcome data currently available. The neighborhood with the highest adolescent homicide rate, Roxbury, and the neighborhood with the most rapidly increasing rate, South Boston, were chosen. Official assault data supported this pattern of high and rising rates of violence in these neighborhoods. Roxbury is predominantly Black; South Boston is predominantly white. These neighborhoods are the two poorest in the city. Their selection avoids racial stereotyping, permits investigation of ethnic and social influences on violence, and acknowledges the powerful association between poverty and violence.

Two community educators, one for each target community, implement and coordinate the community-based program. They were trained in the VPP curriculum and became familiar with agencies in the community that serve youth. They then began to meet with all local agency staff to introduce themselves and the project. Next, informational sessions were conducted with staff of these youth-serving agencies and training needs specific to each community were discussed.

Using the VPP curriculum as the foundation for their work, the project's community educators have provided violence prevention training to staff of 75 youth-serving agencies/organizations and school in the target neighborhoods. They are continuing to help staff develop and implement appropriate activities and programs relevant for each youth group. The Violence Prevention Project provides the prevention tool; the community members provide the delivery.

To date, within the two communities, approximately 600 people have been trained.

Community sites are well-suited for the delivery of the prevention message. Unlike the constraints of a traditional classroom setting, the providers have a relationship with the young people who voluntarily come to them. Length of "class time," frequency of meeting, and regularity of participation may vary, but curriculum modifications are made to suit each setting.

While working with those trained in use of the curriculum, VPP staff helped develop the following "spinoff" materials:

- targeted informational flyers
- educational videotape
- violence prevention rap song
- cartoon characters
- church sermons
- Sunday School session
- public housing information flyer

It is anticipated that as agencies become proficient in delivery of the violence prevention message, they will then be able to help train and engage other persons within their agency, as well as other agencies within the community. Ultimately, this will make the program self-sustaining.

As many community settings as possible are used to deliver the violence prevention educational message. In this manner, the community is "saturated," and the message is heavily reinforced. The following settings have been recruited for the delivery of violence prevention education:

1. Multi-service Centers and Recreation Programs. These centers provide tutoring programs, recreational activities, craft and skill training classes for adolescents in the community.

2. Housing Developments. Many of the services available in the community also exist in the microcosm of the housing development. Some of them have multi-service centers as well as tenant task forces which are capable of organizing special events or programs around the issue of violence. Alternative educational programs occur in housing projects and they are incorporating the curriculum into their classes. The project has been able to utilize the linkage between the Housing Development Team Police (a special branch of the Boston Police) to promote violence prevention. The tenants organizations are particularly helpful in providing access to younger children and parents, as well as to adolescents who are not in school.

3. Police and Courts. Efforts of local police officers to prevent violence are viewed as a positive role by both the

department and community members. Training in the issues and participation in the program give them greater credibility in the community and effectiveness in law enforcement and crime prevention. Court programs that deal with adjudicated youth are additional settings where the project implements both secondary and primary prevention education.

4. Clergy. Religious organizations are important focal points in the target neighborhoods. Religious leaders are adding violence prevention to their list of issues which they address with their congregation. Workshops with church youth groups are being developed.

5. Neighborhood Health Centers. The waiting room of the neighborhood health center is an excellent setting to promote violence prevention. Medical staff provide an important contact with youth who have been injured while fighting or who have come in for other reasons; they can offer education while providing care. Centers are also important sites of secondary prevention services, such as counseling. A protocol for health care providers to use in questioning their adolescents about fighting involvement and to counsel has also been developed in collaboration with Education Development Center.

6. Schools. The curriculum was originally designed for a school setting. The VPP curriculum is now being more broadly disseminated to all receptive schools. High schools, as well as community and alternative schools within the district are being contacted regarding use of the curriculum, which has been incorporated into a variety of classes (e.g., health, sociology, psychology) in some schools.

7. Community Coalition. One significant outgrowth of the community-based work has been the formation of the Community Coalition to Prevent Black Homicide. The coalition is composed of the Violence Prevention Project, a Black church, a multi-service center, a YWCA branch, and a community health center. The coalition places focus on programs for children and adolescents. Risk reduction and violence prevention activities are being integrated into these programs, with a focus on the use of interpersonal cognitive problem solving skills.

In addition to education, the community based intervention has a strong technical assistance component. It provides networking of the fragmented treatment services of the community. The community educators continue to identify resource needs for agencies and work with them to develop appropriate materials to meet their needs.

Clinical Treatment Services

The Violence Prevention Project has seen that many youth are beyond the stage of prevention and that the medical setting is sometimes the first and only place troubled youth go for help. In the case of violence, many youth seek help only when they are severely injured. The hospital, therefore, becomes an important site of entry to needed services for this population. Furthermore, unlike victims of abuse or accidents, there are few nonmedical services available for youths with intentional injuries.

The VPP project initially attempted to work with adolescents admitted to Boston City Hospital with intentional injuries. However, once released from the hospital, almost all such adolescents refused to return for follow-up services and have been very difficult to contact. A new program uses VPP trained pediatric nurses to work with seriously injured adolescents, their friends and family over the course of hospitalization and beyond. Support groups are currently being developed for young people as well as their parents.

During the first two years of the project, a VPP counselor intervened with students suspended from the Boston Public Schools system because of weapon possession.

A final goal of this component is to make the clinical setting more responsive to the needs of youth at risk of violence or engaged in violent behavior and to link prevention and treatment services to generate a comprehensive approach to the problem. The goal is to have two neighborhood health centers become fully functional in violence prevention activities such as education, screening, and referral. The protocol, mentioned earlier, has been developed to provide anticipatory guidance with adolescent patients around violence. It is now being tested for its ability to identify high-risk youth who are in need of supportive services.

Secondary Services Network

The VPP project has developed a secondary services referral network that can be used by the community providers. The network links organizations skilled in working with adolescents in need of services (e.g., mental health/counseling, job training, drug/alcohol education and treatment). The referral process is formalized so that community providers can access the services directly, without the aid of the Violence Prevention Project staff. To date, 60 referral agencies have been identified.

Mass Media Campaign

The Violence Prevention Project was selected by the Advertising Club of Greater Boston for its 1987 Public Service Campaign.

The campaign consists of two 30-second television and radio public service announcements, posters and tee-shirts using the slogan "Friends for Life, Don't Let Friends Fight." The campaign focuses on peer pressure and the responsibility friends have for helping to defuse conflict situations. The PSAs have been used as discussion starters in many of the community-based settings, and the posters and tee-shirts are also being distributed to participating organizations and to the youth who participate in violence prevention activities.

Two other major media projects are currently being developed in collaboration with WGBH-TV, Boston's public television station. One is an hour-long documentary, "Private Violence, Public Crisis," which focuses on prevention and intervention efforts. After it is aired in early 1990, the documentary will be available as twenty-minute, stand alone videos. The other project will result in five 5-minute trigger films that present a conflict situation and offer possible solutions. All of these audiovisual materials will be used as educational tools in the various settings outlined above and will be available to the public through Coronet/MTI, a distributor of educational audiovisual material.

In addition, two informational print pieces have been developed. One describes the program and is distributed during presentations and at conferences, workshops, etc. The second one is designed for adolescents. It alerts them to their risk for violence and death, and offers conflict resolution strategies. It is currently being distributed to neighborhood health centers for use in their examination rooms.

Curriculum Evaluation

The goal of the evaluation was to assess the effect of the curriculum on changes in students' knowledge, attitudes, and behavior.

The evaluation was designed for two phases: first, a field-test of the revised curriculum; second, a national evaluation. This was to serve two goals. It would yield a final revised version of the curriculum and would permit pilot testing of the new measures designed to assess the curriculum's impact. Six inner-city schools were recruited: Compton, Detroit, Gary, Houston, New York City and Philadelphia.

The study design was a quasi-experimental pre-post design with non-equivalent control groups. Student self-report post-tests were collected at time one, within two to four weeks of completing the curriculum, and time two, at the end of the school year, to examine long-term effects. School data included teacher behavior ratings on a random 25 percent sample of the participating students and behavioral data from school records. Both the behavior ratings and the school records were to be completed twice, at the beginning and at the end of the school year.

Analyses were directed at three questions:

- (1) Were there baseline differences among treatment conditions? No differences were found.
- (2) Was there differential dropout from curriculum and comparison conditions? There were no differences.
- (3) Did the curriculum have an impact on students' knowledge, attitudes, and behaviors? The analysis of these effects was complex. However, there were some clear findings. Across all four experimental schools, students who received the curriculum reported marginally lower levels of violent behavior at the post-test, in terms of fighting in the past week.

A risk-factor index was constructed to further explore pre-existing differences, and to take baseline levels of student risk into account. This index was then used in analyses, with attention focused particularly on the risk by treatment interaction. The results suggest that students at higher risk responded more positively to the curriculum than did their counterparts in the comparison classes. In other words, curriculum students who were at highest risk at the pretest had higher scores on knowledge, and lower scores on acceptance of violence than did comparison students at highest risk.

These findings are considered preliminary. Only with further studies will it be possible to determine who can best benefit from this curriculum, and how to make the curriculum more effective for the greater majority of students.

Project Evaluation

Evaluation of the project was designed to document the project's effect on: (1) the neighborhoods where the project was targeted; (2) the agencies in these neighborhoods where providers were trained and assisted in establishing violence prevention activities; and (3) the adolescents who were directly exposed to violence prevention activities as a result of their involvement with trained providers. Evaluation results are not yet available. However, the basic elements of the evaluation at each of these three levels are described below.

Neighborhood Level Evaluation

The effect of the project on the targeted neighborhoods was measured in terms of: (1) the extent of the process of implementation; (2) the degree of change observed over time in the knowledge, attitudes and behaviors targeted by the project; and (3) the degree of change observed over time in the health outcomes (adolescent intentional injuries) targeted by the project.

To assess the implementation process, project staff diaries were reviewed and the extent of project involvement in each of the target neighborhoods was documented. The numbers and types of institutions where training occurred, the numbers and types of providers trained in these institutions, and the numbers and types of programs these providers adapted to incorporate elements of the violence prevention curriculum were all documented by this review.

Changes in the knowledge, attitudes, and behaviors targeted by the project were assessed through two large-sample, city-wide, random-digit-dialed telephone surveys. One survey was administered immediately prior to implementation, the other, near the end of the pilot year of implementation. These surveys contained questions designed to assess the respondent's identification with the knowledge, attitudes, and behavior encouraged by the project. Respondents from the target neighborhoods were compared to respondents from the remaining (control) neighborhoods to see if effects of the project were apparent in significant improvements, over time, in the performance of the target neighborhood respondents relative to the control neighborhood respondents. This level of analysis looked for what might be called diffusion effects, the effects of the ideas embodied by this new project on the knowledge, attitudes, and self-reported behavior of a representative neighborhood sample, including many respondents who were not directly exposed to the ideas by receiving services from trained providers, and others whose exposure, if any, was through indirect contact (e.g., through contact with those who had been directly exposed).

The success of the project in ultimately reducing intentional injury among adolescents in the target neighborhoods was determined through use of two different intentional injury surveillance systems. The first was instituted in the adult and pediatric emergency rooms of the major hospital serving the target neighborhoods (Boston City Hospital). Records from all intentional injury visits were collected so that demographic (and, when possible, circumstantial) information for intentional injuries to adolescents could be compiled. The system was originally intended to monitor serious intentional injury in the target neighborhoods for three years.

Unfortunately, this surveillance system was too costly to maintain after the initial pilot year. Thus, while the research goal of collecting one year of data for emergency visits was served, the evaluation's goal of documenting a post-implementation decrease in the incidence of intentional injuries requiring hospital visits was not. The second surveillance system was based on medical chart reviews for violent injury at a single community health center in each of the target neighborhoods. This surveillance served both the evaluation and the more general research agenda of enumerating intentional injury in an urban adolescent population. Third, a moderately successful attempt was also made to institute a fight surveillance system in the health centers to document the incidence of fights and minor untreated injuries resulting from them. The combined result of all these efforts was that during the pilot year, in the target neighborhood, some sort of surveillance was in place for all degrees of intentional injury ranging from minor untreated injuries to major hospitalized ones.

Agency Level Evaluation

The effect of the Violence Prevention Project on the targeted agencies in the target neighborhoods was measured in terms of (1) the extent to which these agencies were trained in the curriculum, (2) the degree to which elements of the curriculum were then incorporated into services provided by these agencies, and (3) the indications that the agencies adoption of violence prevention activities actually influenced the behavior of staff and clients of the agency.

The extent of training was assessed by review of Violence Prevention Project staff diaries and rosters from training sessions, as well as by interviews with key informants in the agencies. These sources helped identify which staff members and what percentage of the staff in a given agency had been trained, and what types of staff positions were involved in the training process.

These sources were also used for documenting the ways in which the curriculum was then adapted into the services of a given agency. Efforts were made to document the types and number of services adapted, and the types and numbers of clients actually reached by these services.

The effect of violence prevention activities on agency functioning was assessed by interviews with key agency staffs. These informants related their perceptions of how the training and its adaptation to agency services had influenced the behavior of both agency staff and adolescent clients around the issue and incidence of violence. In one agency (the schools) the evaluation was able to corroborate that the providers' (teachers') perceptions

about VPP-related changes in school violence when compared to changes in the school's violent-incident suspension rate.

Individual Level Evaluation

The effect of the VPP on individual adolescents was assessed in terms of (1) pre- and post-test of knowledge, attitudes, and self-reported behaviors of exposed individuals, and (2) tallies of fighting or intentional injury behaviors using school and health records.

In the health centers, review of intentional injury histories allowed the project to compare trained, relative to the untrained control students, in the rate of intentional injury.

In the schools, the same comparisons were made using linkages between amount of educational exposure and the rate of suspensions for fighting. The role of the strength of the exposure was studied. The "dose" of violence prevention training will be studied as determinant of effectiveness.

E. Aggressors, Victims and Bystanders: A Middle-School Violence Prevention Curriculum

A project recently funded by the Centers for Disease Control (CDC), and to be carried out by Education Development Center (EDC) over a 3-year period, will contribute to the knowledge of cognitive mediation of aggression while exploring the less well-understood roles of victims and bystanders. It will also lead to the development, implementation, and evaluation of a violence prevention curriculum for middle school children. Middle schools have been found to be the locus of significant levels of violence. A recent survey of teachers reported more physical violence among middle schoolers than at the high school level.

The project focuses on young adolescents because: (1) this is a formative age for attitudes regarding violence, (2) reducing violence at the middle-school level is, in and of itself, an important focus for violence prevention activity, and (3) there are few, if any, empirically-based violence prevention curricula for this age group.

There are three specific aims of this project. Study 1 will assess the cognitive factors that influence the violence-related behavior of young adolescents. Habitual patterns of thought, behavioral intentions regarding violence, and their rated violence-related behaviors will be assessed in children nominated by their peers as aggressors, victims, or potential bystanders.

Study 2 focuses on development and refinement of a violence prevention curriculum based on findings of Study 1. Feedback from teachers, school administrators, and children regarding the relevance, implementability, and utility of the curriculum will help to shape the curriculum.

Study 3 is designed to provide a controlled test of the effectiveness of the violence prevention curriculum in changing and maintaining the habitual patterns of thought, the behavioral intentions, and the rated violence-related behaviors of inner city young adolescents.

Several of the schools that have participated in earlier Violence Prevention Project activities will be participating in this new curriculum development project.

VII. IMPLEMENTATION AND EVALUATION

In view of potential importance to adolescents of preventive interventions to reduce mortality and morbidity, to improve the current quality of life and to enhance likelihood of positive options in future adult life, it is of crucial importance that we can be assured of the efficacy of interventions that are being mounted to achieve these goals. Unfortunately, there is a past history of many well-intended, often very expensive interventions that have failed to achieve their goals. There is a double loss in these failures. The youngsters do not receive the help they need. In addition, policy makers and other responsible persons come to feel that the problems are intractable and "nothing works".

In the final analysis it is the implementation of a program that will determine its degree of success or failure. Regardless of the soundness of the conceptual base, clarity of purpose and appropriateness of the design and curricular content, the program cannot succeed unless it is carried out as intended, in all of its aspects. Any serious effort to evaluate the efficacy of a particular program model depends on an assumption of fidelity in implementation or clear understanding of the factors that account for any deviation from the specified program plan. For any innovative program these are the basic conditions for learning what works, how and why.

In addition to issues of fidelity of implementation, there is an equally important aspect that involves entry into a system and, ultimately, change of that system to incorporate and sustain the program on a long term basis.

Knowledge of implementation factors is also crucial for dissemination. Only when the relevant factors are presented in detail can there be a blueprint that will reliably guide other schools, agencies or communities in their replication of the program in a way likely to maximize effectiveness.

In the implementation of an intervention there are five dimensions that are equally important. These are:

1. Selection of program site
2. Entry into the system (school, agency, community)
3. Training of the trainers/teachers
4. Presentation of the program
5. Evaluation

The selection of program site involves two considerations. The first relates to the target population. Often it is important to do a survey of the demographics to specify the nature of the population by social class, race, extent of current involvement in specific behaviors or other attributes of interest in order to

assure that the desired sectors of the population will be served. Also, a needs assessment will ascertain the appropriateness of the match of the projected program to the actual needs and wishes of the potential recipients. This kind of information base is also useful as part of the process of prior preparation for initial approach to the decision makers who will have to endorse the program.

Entry into a system benefits from either a formal or informal survey of the organizational structure of the system to be entered. It is crucial to know how the power structure actually operates with respect to spheres of influence and relationships, both positive and negative, of persons in the system. Contacts should be made with school administrators, teachers, parents, students and community persons. Insofar as possible, these persons should be made a part of the planning process for the entry process and they should be fully informed about the concepts, goals and content of the projected program. Entry into a system depends on the active support and collaboration of the key decision makers. In the process, quite often they are also a source of highly practical suggestions.

Training of teachers/trainers has been shown to be the source of great variability in program outcome. In general, the longer the training, the more task specific and the greater the on-going supervision of teachers, the more likely it is that the curriculum will be implemented with fidelity. In turn, with greater fidelity, the higher the likelihood of uniformly good results. As will be discussed shortly, there is the widest possible variation in the kind and amount of teacher training, from none in many of the commercial programs, to 50 or 60 hours with on-going feedback and supervision based on direct observation. These issues will be further discussed under evaluation. At the very least, teachers and trainers must understand the rationale and goals of the program. They also need instruction on skills in implementing the innovative pedagogic approaches that usually characterize life skills training. Detailed teacher manuals are necessary. Some programs monitor teacher performance by classroom observation ratings using trained observers.

The presentation of the program includes such components as the total number of sessions and the length and spacing of sessions. There are decisions to be made whether the program is to be offered on a one time basis, with follow-up "booster" sessions or annually as part of a sequential incremental programmatic effort. There are other decisions to be made about use of parents or community resources as part of the program and the ways to assure their adequate levels of participation. Teachers/trainers may be adults, peers or adults plus peers.

Ongoing evaluation of the program is important not simply for academic purposes of enhancement of knowledge but also for the

practical purpose of assuring that the program is achieving its stated goals. Information is gained for making adjustments, when necessary, in teacher training, monitoring for adequacy of school support (or agency support) and for fine-tuning the program presentation to the youngsters.

At the present time, life skills training programs are still novel, and although they may have much appeal to some potential users, they are not readily absorbed into existing systems. Where their importance and purposes are not well understood or appreciated, there is likely to be suspicion or outright hostility to their introduction. Unfortunately, some of the schools or communities that could benefit most may be the least receptive to initial approaches. Studies that examine experience with implementation give us guidance in how to surmount these obstacles.

In reviewing experience with implementation, it is useful to review a full range of intervention programs and, in particular, to expand this discussion by drawing on knowledge gained from a related approach, health education. While there is much overlap in their concerns with substance abuse and other related adolescent problem behaviors, health education and life skills training approaches have grown out of different professional backgrounds. They have utilized different emphases. Life skills training has been especially concerned with social competence, while health education has primarily emphasized the nature of certain disorders or health problems and ways of preventing them. Yet, health education programs have begun to draw upon many ingredients that characterize the life skills approach. Indeed, health education may be an area in which life skills training might be predicted to have an increasingly stimulating impact. By the same token, life skills training may benefit from the growing institutionalization of health education in the schools and from important strides in research methods and program evaluation in this field. Therefore, one health education Program, the School Health Curriculum Project (SHCP) that incorporates significant life skills training components will be described. As will be discussed later, this program has had an unusually thorough evaluation and is a model of evaluation research. There has been a need for this type of exemplary evaluation effort to give a definitive verdict on the efficacy of these preventive interventions.

Given the importance of the role of school-based programs in addressing substance abuse and other health problems of youth, the Department of Health, Education (HEW) addressed the task of assuring that school administrators and community leaders could be provided the credible information base required to choose and implement effective school health education programs. As a part of that effort the Public Health Service took leadership, first, in developing comprehensive school health education programs and later, in assuring an appropriate assessment. The School Health Curriculum Project (SHCP) had been developed and sponsored by the

Public Health Service since 1967. In 1979, HEW initiated a definitive review of the School Health Curriculum Project. This evaluation is presented in detail as a model of excellence in assessment and also to define the issues of concept, study design and methodology that are crucial to valid and reliable evaluation of life skills interventions.

Program Description

The School Health Curriculum Project (SHCP) is a comprehensive program that was initiated in response to concerns about increasing tobacco, alcohol and drug use by young adolescents. It is a prevention curriculum for grades 4 through 7 and spans elementary and junior high school. There is a basic premise that youngsters will resist social pressures to smoke, drink or use other drugs if they can be given a comprehensive training that includes several core elements; fundamental knowledge of the biology of the human body, principles of health and illness, an understanding of health in the larger family, community and even national context. At the same time there was recognition of the need to teach students interpersonal skills and strategies of problem solving. Throughout, there was emphasis on the importance of maximizing opportunities for success, developing a sense of personal efficacy, encouraging cooperative learning and developing critical thinking skills. As an integral aspect of their educational process these programs also provided opportunities to involve family members actively as well as to interact with the community. These program attributes are also fundamental to life skills training interventions. An extremely broad view of health education is incorporated into the program philosophy. The SHCP program is also intended to be integrated with other curriculum areas such as science, reading, writing, mathematics, music, and art, to show students the relevance of health to other fields. SHCP emphasized the importance of an innovative and active classroom processes regardless of the subject class in which it is taught. In all of its aspects it seeks to maximize opportunities for personal success while minimizing chances for student failure.

Each SHCP grade unit focuses on a different body system: the digestive system in grade four; the respiratory system in grade 5; the cardiovascular system in grade 6; and the central nervous system in grade seven. However, given the recognition that simply providing knowledge to students is not sufficient to cause changes in behavior, children in all grade units participate in augmenting experiences that include student experiments, learning center activities, skits, film viewing, listening to audio cassettes, group and individual work on projects, and discussions with peers.

SHCP is a 60 session program given over a 12 week period (one class period each day, five days a week). In each grade, the curriculum has seven modules. The Introduction is a series of

motivational exercises, designed to arouse students' curiosity about the body system to be studied. Phase I is "Awareness," during which students learn the outlines of major body systems, and the interrelationships among these systems. In Phase II, "Appreciation," students are shown the uniqueness and significance of the system under specific study. In Phase III, students learn the "Structure" and Normal Functioning" of the specific system in preparation for Phase IV, a consideration of "Disease and Disorders." In Phase V, "Prevention," students learn how good health habits can prevent disorders studied in Phase IV. Finally, the students themselves prepare "Culmination" activities: skits, stories, songs, poems, papers that demonstrate what they learned in the different phases. Often, these activities are presented to other students or to the parents.

SHCP Training

The teacher training program, available to all school districts that adopt the SHCP, is a distinctive feature. Teacher training is intensive. The program developers recommend 40-60 hours of teacher training. Schools adopting the program also are encouraged to send an administrator (preferably the building principal where the project will be implemented), at least two teachers from the specific grade level, the school nurse, and one other support person (often the district curriculum coordinator, health education specialist, or other resource person who must manage the materials) to the training sessions. Supplementary materials for classroom use are provided. The intent is to train a core of school district staff so they can train other teachers, and disseminate the program throughout the district. Once the district has a trained core of teachers who are experienced in the various SHCP units, the local school district is responsible for dissemination to other schools within the district and, in some instances, to neighboring school districts.

Evaluation

The definitive evaluation of the SHCP was carried out in a research project called the School Health Education Evaluation (SHEE).

The SHEE findings provide the best available scientific documentation that school health education programs can be effective. The studies also give data that explain the determinants of the documented positive effects.

The SHCP is a comprehensive program for grades four through seven. A standard version has been widely disseminated throughout the nation. Collectively, at least 15 separate evaluations and 25 formal reports on SHCP had been submitted prior to 1979, from the

diverse sites of its implementation. When carefully reviewed, these early reports were found to vary in scope and technical quality, however, most of them had methodological flaws serious enough that their results were inconclusive. Prominent problems included non-random assignment of subjects to treatment groups, inappropriate use of matching and use of non-validated tests for measurement of results.

In order to obtain valid answers, it was determined that it would be necessary to design a major new evaluation. In 1983, the Centers for Disease Control, the Office of Disease Prevention and Health Promotion, and The Center for Health Promotion and Education contracted with Abt Associates, Inc. to evaluate the SHCP in comparison with three other school health interventions. All four experimental programs were matched with untreated control classrooms. A National Advisory Group was appointed to assist in the project evaluation design and execution. The lengthy, expensive SHEE evaluation project was divided into four phases.

In Phase I, all of the SHCP that met criteria for inclusion in the study were identified nationwide. In consultation with the Advisory Panel, three comparison health education programs were also identified. An inventory of psychometrically validated measures of short- and long-term program effects were selected or developed when necessary. A data collection and data analysis plan completed Phase I.

Phase II involved the field studies and Year I evaluation of all four school health education programs: SHCP and three comparison programs. Two comprehensive programs comparable in scope to SHCP were selected for evaluation Health Education Curriculum Guide (HECG); Project Prevention (PP). The third comparison program, Reading, 'Riting, 'Rithmetic and High Blood Pressure (3 R's and HBP) was selected as an example of a much more narrow and focused intervention effort.

The SCHP sample of school districts was chosen for representativeness of geography, of student diversity, and to reflect accurately the fidelity of program implementation in the various settings. Large cities were oversampled to assure adequate representation of urban and minority children. The classroom was the unit of analysis. A total of 1,071 classrooms, grades 4 through 7 in school districts in 20 states, were studied. In addition to the representative study of SHCP, an experimental SHCP intervention was mounted as an exemplary program at several new sites to examine for any differences in outcomes related to quality of implementation factors. When preliminary analyses of the first year data showed no significant differences between the experimental and the representative SHCP interventions, the two samples were combined for subsequent analyses.

The following research questions were posed:

1. Is the SHCP an effective curriculum for school health education?
2. What are the short range and long range effects of all programs on students, teachers, parents, and the community?
3. How do specific units of SHCP compare in cost-effectiveness with similar components of alternative curricula taught at comparable grade levels?
4. What are the common factors within and between individual programs associated with success or failure?
5. To what extent are school health education curricula, in general, effective in improving health knowledge, attitudes and health behaviors of students.
6. How can SHCP be improved?

The four curricula were compared in terms of cost-effectiveness. Effectiveness was defined as improvements in desired health knowledge, attitudes and behavior. Costs were defined in terms of teacher training costs, program support materials and classroom instruction time.

An assessment of factors associated with the implementation process in relation to observed program effects was another aspect of evaluation. For this purpose Teacher Reports were obtained. Questionnaire items included teacher preparation to teach human biology and health; training in the modes of presentation of the program to students; and reports on factors affecting curriculum implementation, for example, class time allotted for health education classes and activities.

Parents provided information on the extent of their classroom participation, observations about the impact of the program on their children and comments on what they felt should be taught as well as their rating of the importance of the program.

The research design permitted evaluation of effects of continued exposure to health education across several grades as compared to the effects of a single year of instruction. This aspect of the program also examined changes, if any, made by teachers who were teaching the program for the second time. The nature and extent of teacher changes to adapt the program were recorded.

Perhaps the most difficult aspect of the study and the most significant contribution was the development of the student assessment instrument. The valid and reliable assessment of the student outcomes was a critical aspect of the study. It had been determined that the test instrument should meet specific requirements: to be used across multiple grades, to be program independent (for health knowledge, attitudes and behaviors), to be

easy and efficient to administer in a large number of classrooms in a time frame of not more than one hour. A careful search of the relevant literature had located over 100 candidate instruments. When reviewed, none of these was found to be satisfactory for the study. No single test was sufficiently comprehensive to measure the SHEE programs. On review, a substantial number of the tests could not be shown to be psychometrically valid or reliable. Few of the tests reviewed had any attitude or health behavior items. The final product is called the Student Inventory Manual and is described in detail in the Final 1985 Report of the SHEE project.

Summary of Findings

A consistent pattern of results found that health instruction was effective in meeting program objectives as taught in the study classrooms. For all interventions, school health program effectiveness was strongly related to full and careful implementation. The report of findings focused on four broadly defined student test constructs: overall knowledge, attitude, practice (health behavior) and program-specific knowledge. The relationships of those four test subscores to measures of program implementation and cost also were reported.

Effectiveness of School Health Education

The results, although positive at levels that parallel other successful pedagogic efforts, are known to be a significant understatement of the true magnitude of the effects. Design decisions about selection of measures and data analyses were made by the National Advisory Panel that substantially and systematically diminished sizes of the effects. With full awareness of this diminishing impact, they voted to measure a broad set of cognitive, affective, and reported behavioral outcomes rather choosing to focus on a limited set of more highly focused and sharply defined outcomes. Further, they stipulated that the very broad measures had to be psychometrically acceptable across four grade levels. Under these constraints, it was inevitable that percentage changes would be much smaller than when grade specific or program specific analyses are performed. In commenting on SHEE results the Advisory Panel stated "It was known at the outset that percentage gain during the school year would be predictably lowered. The large pool of items was like using a 20 foot measuring stick to detect the differences in heights of people ranging from four to six feet. When differences in height are expressed in percentages in relation to the 20-foot ruler, even a substantial difference in height such as two feet, show a percentage of only 10%." The classroom was used as the level of analysis.

For both experimental and control classrooms, knowledge scores increased between pretest and posttest, with larger gains associated with participation in a health education program. Much smaller changes were observed for attitudes and self-reported practices, though the changes on those measures also favored health program classrooms.

The pretest and posttest scores for the entire sample of program and comparison classrooms are shown in Table I. Each classroom's Program-Specific Knowledge measure was computed depending on the program to be taught or the control group to which the classroom belonged. As examples, the SHCP Specific-Knowledge score was computed for SHCP and SHCP Control Classrooms, and the Project Prevention Specific-Knowledge score was computed for Project Prevention and Project Prevention Control Classrooms.

Statistically significant differences were observed for each domain measured. Differences recorded for knowledge measures were greater than those for attitudes and practices, and program-specific knowledge gains were 40% greater than for the general knowledge measures (Figure 1).

For each knowledge content area measured, classrooms exposed to health teaching increased knowledge subscores more than classrooms with no health program. The differences ranged from 4.2% to 6.8%; the greatest difference was recorded for knowledge regarding substance use and abuse.

Overall, students in health program classrooms reported healthier attitudes for three of the four subscores. The greatest differences were recorded for attitude towards maintaining a healthy body.

All self-reported health skills and behavior subscores were greater in health program classrooms, with the greatest differences recorded in decision-making skills.

Based on their self-reports, almost three times as many control classroom students began smoking in the first half of the seventh grade as compared to students in health program classrooms. In midyear, less than 8% of the seventh grade health program classroom students reported that they were smoking, compared to more than 12% of the control classroom seventh graders. It is well known that attitudes and health behaviors are particularly resistant to change. This reported difference represents confirmation of the impact of school health education on behavior.

A substudy of the evaluation analyzed the impact of a second exposure (booster) to health instruction given in fifth and sixth grade students. Evidence from that substudy indicates that students reported attitudes and behaviors benefit dramatically from a second exposure to health instruction. (Figure 2) Since the

objective of school health instruction is to have a lasting impact on health attitudes and practices, it is important that benefits from a program be consolidated by a coordinated health program continued through several grades and not be lost by failure to follow up and reinforce earlier gains.

In summary, the SHEE study shows that health education works. It works better when teaching is more extensive and comprehensive. It works best when fully implemented with broad-scale administrative support and structured teacher training methods and materials. Significant effects on attitudes and behavior are associated with continuity of teaching across grades. It works best with early presentation of foundations of basic health knowledge rather starting with specific problems or health concerns. Health knowledge gains, even with the conservative research analytic design of the SHEE study, reached levels of effect sizes that are educationally significant.

Evaluation of Implementation

The pattern of effectiveness was not equal across measured domains, grades, or participating programs. The two factors that accounted for much of the observed variation were: (1) the fidelity of program implementation provided within each classroom, and (2) the priorities of program developers and teachers. Each of these factors was related to the allocation of school resources to health curricula. Where available resources (either classroom time or program support materials) were not sufficient to provide a complete program, the percentage of the program taught was reduced and, in turn, overall effectiveness of that program was diminished. The pattern of effects in such cases strongly reflected the primary program objectives and, to a lesser degree, the priorities of the individual teachers. For example:

The largest effects for Project Prevention were improved decision-making skills, an area of major concern to the program developers.

The largest effects for seventh grade SHCP programs were in smoking incidence, knowledge of normal growth and development, human sexuality, and substance use and abuse. Each area of these areas was assigned a high priority, relative to other content areas, by seventh grade teachers.

The impact in those classrooms where the health programs were implemented fully is illustrated (Figure 3) in comparison to the "average" program effects. In full implementation classrooms, impacts were increased, particularly for measures of reported attitudes and practices. The effects are 5% greater for program-specific knowledge and 20% greater for general knowledge, but 90% greater for attitude and 85% greater for health behavior measures.

Thus, teachers of health education programs appear to be quite effective at meeting the specific knowledge-related instructional objectives even when only partially implementing those programs. However, the broader more difficult objectives of health programs involving changes in attitudes and health behaviors are not successfully accomplished under such limited circumstances.

The amount of in-service teacher training was related to fidelity of program implementation. Teachers who received no training were compared to teachers who had been trained using measures of the percent of program content taught as well as fidelity in presentation of curriculum. Trained teachers were further divided between those who received a full training and those who participated in briefer training sessions. Full training was defined as 40 or more hours for SHCP, one or more hours for HECG, 11 or more hours for Project Prevention, and four or more hours for 3 Rs and HBP. Figure 4 illustrates group differences on program implementation. On the average, fully trained teachers complete a greater percentage of the program curriculum and implement with greater fidelity than teachers with partial training, who in turn implement programs more fully than teachers not familiar with the complete range of health instruction methods and objectives. A program of in-service training also appeared to be an important factor in persuading teachers that an additional effort to fully implement health instruction would produce additional benefits in changing attitudes and health practices of students.

Individual Program Effects on Student Outcomes

The assessment of health instruction effects on students across the four participating programs was completed employing a consistent set of measures. Therefore, it was possible to describe the effects of each program in consistent terms. The magnitude of effects for individual programs depended heavily on several factors included 1) continuity and the existence of a source of program support, 2) the length of program experience of teachers, and 3) the program specificity of these measures.

One comparison program, Project Prevention, where effectiveness was least frequently found, lacked continuing administrative support. As a result the program was often implemented by teachers who had no prior experience with the program or who had received in-service training under suboptimal conditions.

The results, presented in Table 1, suggest that each of the programs participating the evaluation have significant and important effects on students. The SHCP demonstrated the largest student effects in the comparisons across overall domains and

content areas as implemented in the "average" classroom. The strongest program-specific knowledge effects were found for the 3 Rs and HBP program which was a very narrow program devoted to high blood pressure. Each of the programs produced their most prominent positive effects within those areas targeted as most important by program developers and/or teachers. Thus, each program could be considered successful on its own terms.

Costs of School Health Education Programs

The expenses associated with school health instruction were considered for both "full" implementation and "average" implementation and are illustrated in Figure 5. For full implementation, total costs for the programs participating in the evaluation averaged about \$56; SHCP costs (\$84) were 15% greater than HECG (\$71), 40% greater than Project Prevention (\$50), and more than 75% greater than 3 Rs and HBP (\$23). For an average implementation, the average cost were about \$48; SHCP costs (\$75) were 40% greater than HECG (\$48), 50% greater than Project Prevention (\$45), and 70% more than 3 Rs and HBP (\$23).

The two major categories of program costs were adoption costs and implementation costs. The first category included expenses related to teacher training and support materials, while the second category consisted of the costs of classroom instruction time, including teacher salary and fixed charges related to school operations. Implementation costs represented about 92% of the total costs for the four participating programs. The SHCP was the only program for which adoption costs were a significant proportion of total costs -- 19% for full implementation and 13.5% for average implementation as opposed to 3% for 3 Rs and HBP and about 1% for both HECG and Project Prevention. Average training expenses for SHCP teachers was approximately \$150. SHCP teacher trainees were offered an opportunity for college course credit, but rarely were reimbursed financially. Complete SHCP material sets for a classroom were priced between \$2,300 and \$4,900, depending on grade level. In contrast, HECG prescribed no training, and program support materials were available at \$60 for each classroom. Even when prorated over five years and two used each year, SHCP adoption costs were still 25 times greater than any of the other programs participating in the evaluation.

From this information, it is clear that operating expenses, or classroom instruction hours, were the primary component of total program costs. However, while costs of adoption represent only a small portion of the total costs, they were the most "visible" of the costs to school administrators and financial planners. A commitment to teacher training and/or support materials may be a crucial factor in fostering widespread teacher acceptance of health programs and, achieving administrative commitment to delivering health instruction will be carried in the classroom. A commitment

to a comprehensive school health instruction program in the primary grades is generally made at or below the school district level. For school administrators, expenses related to teaching training and materials may represent a more important selection factor for school health programs than prescribed classroom instruction hours. Adoption costs represent a fixed outlay of school budget funds, while classroom hours represent a flexible resource that is not assigned by curriculum topic. Teacher training and support materials are expended before any program impact might be observed and, therefore, represents an unrecoverable investment of resources.

Some school administrators may follow the most conservative course by selecting a program that minimizes training and support material costs. Evaluation evidence suggests that teachers are less likely to fully implement a health education program without appropriate training and at least minimal instruction in the content of health courses or achieve knowledge objectives. They were even less successful in meeting program objectives in changing attitude and health behaviors. However, when untrained teachers did set aside sufficient classroom hours to complete fully the prescribed program curriculum and activities, the benefits of this fidelity outcomes in improved attitudes and self-reported health practices were far more impressive than in the knowledge gains. In practice, many teachers experienced difficulty in making substantial amounts of time available for extensive health instruction. Across all programs, about 15% of the teachers who taught more than 40 hours of health indicated that time demands of the health program conflicted with requirements of regular teaching curriculum.

High quality in-service training for health programs serves both specific and general functions. Few teachers have a background in health education. In-service training provides needed specific information about the organization and content of the course. In addition, provision of training sessions provides teachers with tangible evidence of the school district's commitment to health instruction. Finally, training acquaints teachers with the objectives of health programs in the affective and behavioral domains, teaches them new approaches to learning and classroom interaction, as well as developing commitment to the classroom program activities. Perhaps extensive in-service training may not be the only means to fulfill these vital functions. This needs further study.

Classrooms across all participating health programs in which programs were implemented for specific ranges of classroom hours (for example, between 15-25 hours) were analyzed for impact on knowledge, attitudes and health behaviors. The findings were as follows:

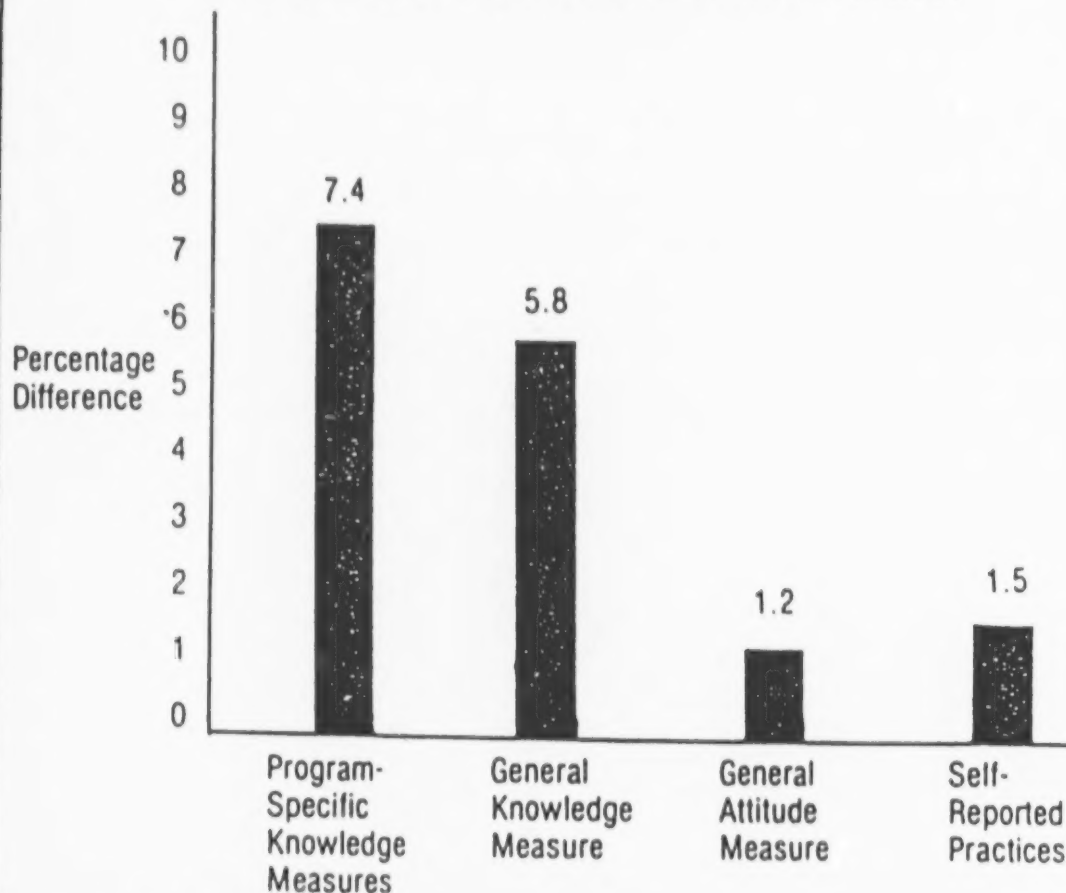
- More classroom hours are required to produce significant attitude change than knowledge or change.
- Large effects are achievable for general health knowledge gain, but only after more than 50 classroom hours.
- Large gains for a specific subset of health knowledge is achievable in far fewer hours.
- Medium effects are achievable for general health practices when more than 30 hours of classroom instruction is provided.
- Effects for all three domains reach generally stable levels at about 50 classroom hours.

In summary, it was found that implementation variables heavily influence the effectiveness of health programs.

An association exists between student effects and classroom hours across all measured domains. The full benefits of health instruction on attitudes and reported health behaviors were achieved when a sizable commitment of classroom hours was made to a health program. Further, the evaluation data suggested that substantial teacher training and program support materials were important for a positive influence on the implementation of a school health program. Full implementation was required to achieve the maximal results for each participating health program. These implementation factors are significant because they represent moderate to high costs of health program adoption in school districts during a time of severe fiscal limitations for the schools. The "adequate" amount of training and materials surely varies among school health programs. However, further systematic studies into the appropriate ratio of adoption costs to implementation factors, such as the number of program activities or intended classroom instruction hours, would provide both program developers and educational decision-makers with crucial cost-effectiveness information.

The publication of the findings of this study has been described as a landmark event. Dr. James Mason, Assistant Secretary for Health and Human Services and Dr. J. Michael McGinnis, Director of the Office of Disease Prevention and Health Promotion have stated, "For most health professionals, the study unequivocally demonstrates that school health education is an effective means of helping children improve their health knowledge and develop healthy attitudes. It also shows that school health education can decrease the likelihood that children will adopt behaviors that are hazardous to health. We are but two of many health professionals who welcome the results of the SHEE as a confirmation of the longstanding conviction that schools must play an essential role in the promotion of health."

Figure 1
Observed Differences Between Program and Comparison Classroom Performance on Posttest

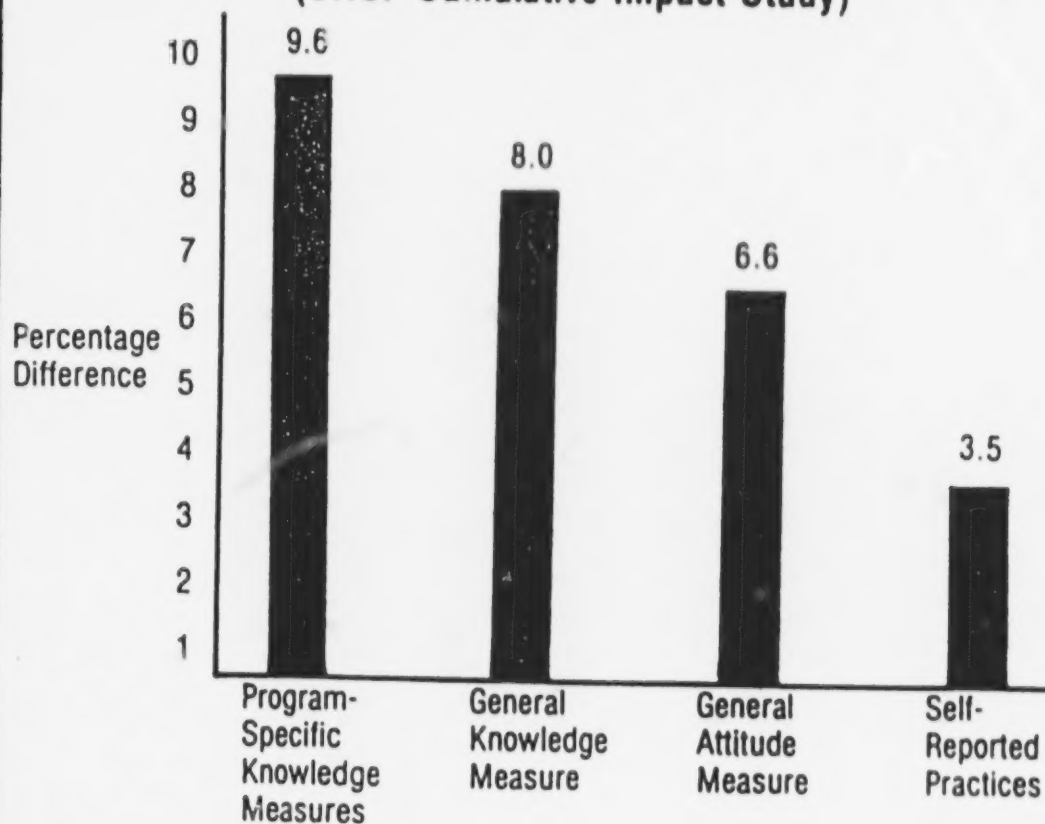


■ Raw Percentage Difference in Posttest Scores for all program classrooms (n = 688) and comparison classrooms (n = 383)

NOTE: All differences favor health program classrooms and are statistically significant. The percentage differences for each measure are the magnitude of the observed posttest differences divided by the scale range.

Connell, D.B., Turner, R.R., & Mason, E.F. (1985). Summary of the findings of the school health education evaluation: Health promotion effectiveness, implementation and costs. Journal of School Health, 55(8), 317.

Figure 2
Observed Differences Between Groups Taught Health for Two
Years Compared to Groups Taught Health for One Year
(SHCP Cumulative Impact Study)

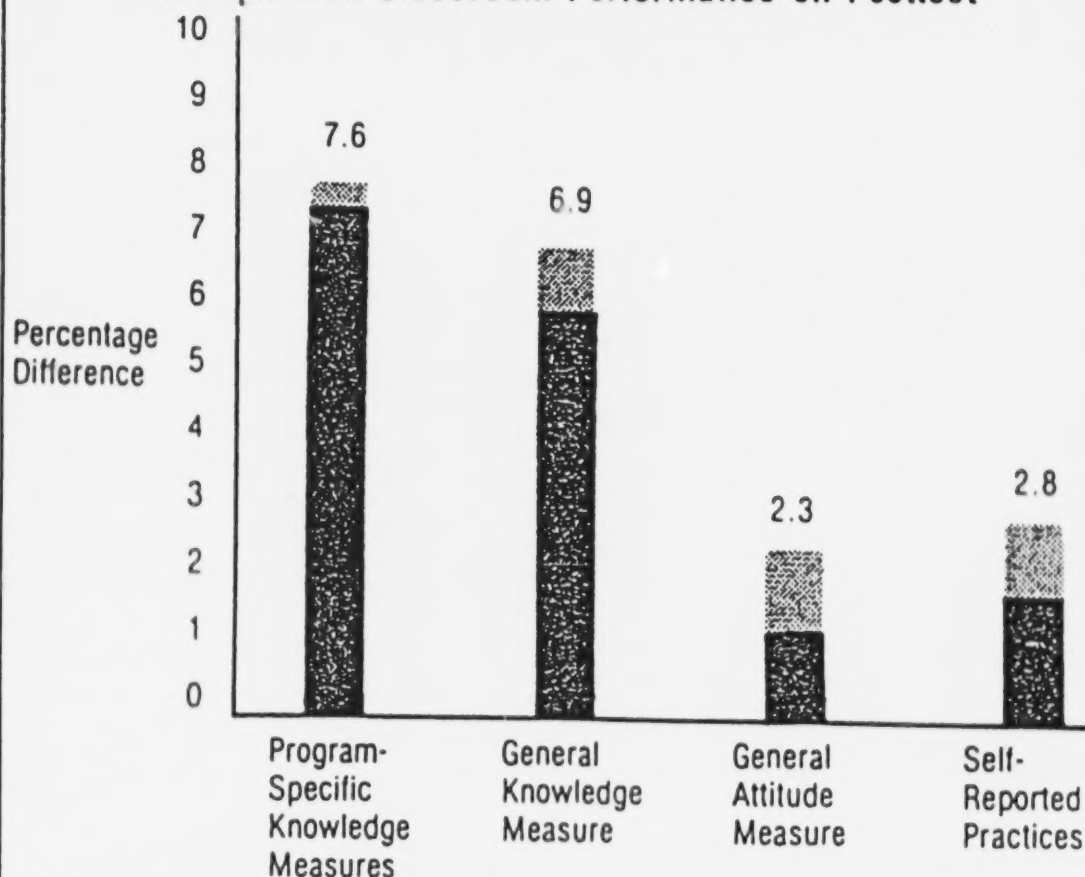


■ Raw Percentage Difference

NOTE: All differences favor health program classrooms and are statistically significant. The percentage differences for each measure are the observed posttest differences divided by the scale range. Details of the SHCP Cumulative Study are described in Chapter 9 of *School Health Education Evaluation, Final Report*, vol. II.

Connell, D.B., Turner, R.R., & Mason, E.F. (1985). Summary of the findings of the school health education evaluation: Health promotion effectiveness, implementation and costs. *Journal of School Health*, 55(8), 318.

Figure 3
Observed Differences Between Fully-Implemented Program and Comparison Classroom Performance on Posttest

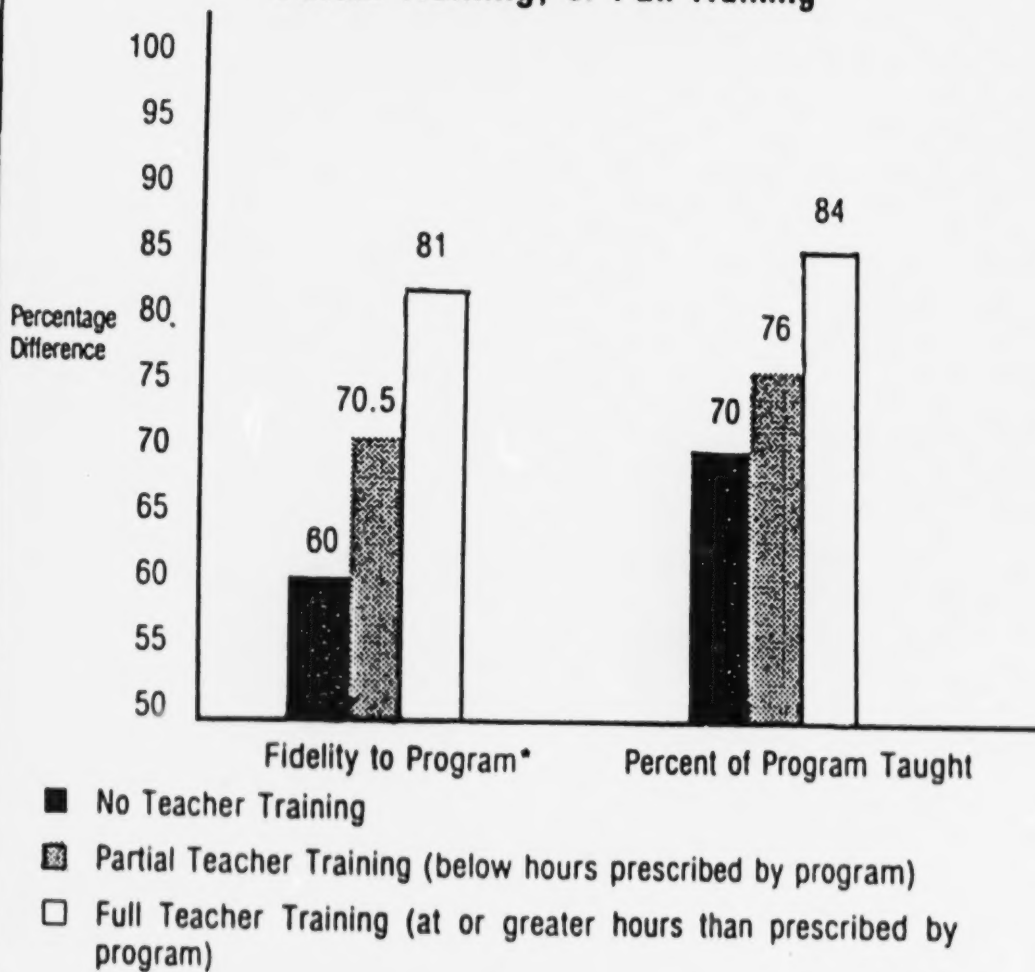


- Raw Percentage Difference in Posttest Scores for all program classrooms (n = 688) and comparison classrooms (n = 383)
- ▨ Raw Percentage Difference in Posttest Scores for "fully-implemented" program classrooms (n = 324) and comparison classrooms

NOTE: All differences favor health program classrooms and are statistically significant. The percentage differences for each measure are the observed posttest differences divided by the scale range. For purposes of illustration, "full-implementation" required instruction hours equal or greater than minimums prescribed by program designers; more than 80% of the program activities taught, and greater than the program average degree of fidelity to program materials.

Connell, D.B., Turner, R.R., & Mason, E.F. (1985). Summary of the findings of the school health education evaluation: Health promotion effectiveness, implementation and costs. Journal of School Health, 55(8), 318.

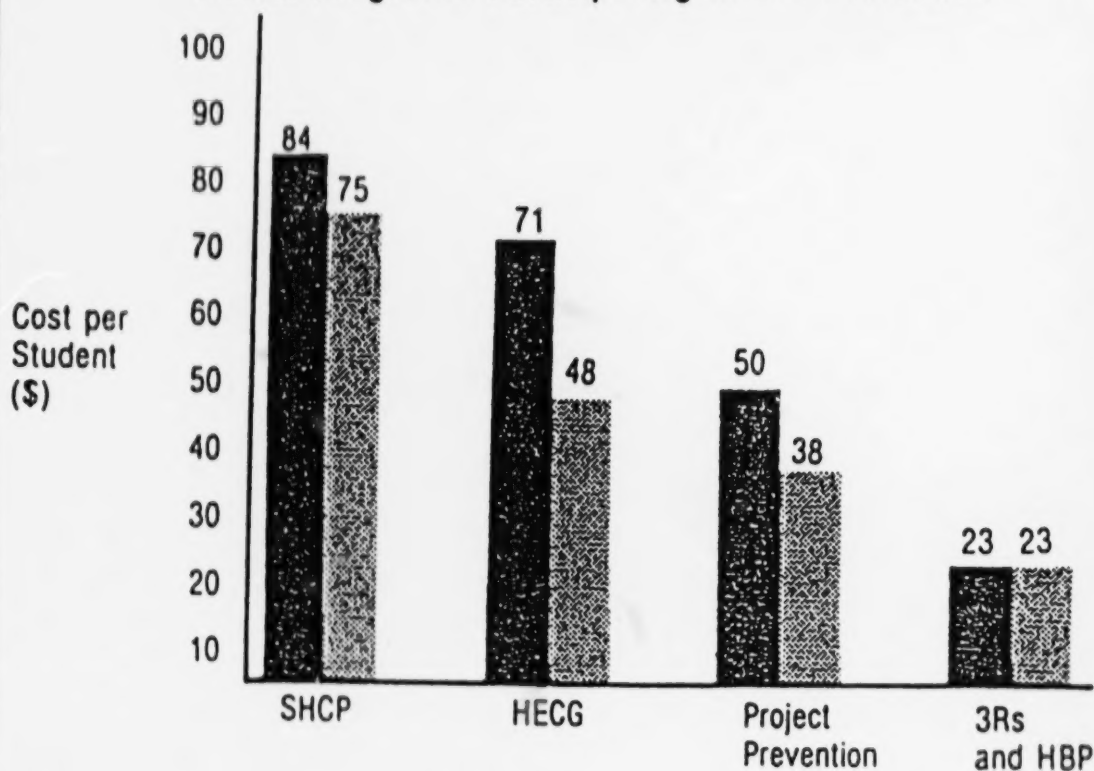
Figure 4
Comparison of Program Implementation for Classrooms
Where Teachers Received No Training,
Partial Training, or Full Training



* Based upon the degree of modification of activity plans and materials provided by the program.

Connell, D.B., Turner, R.R., & Mason, E.F. (1985). Summary of the findings of the school health education evaluation: Health promotion effectiveness, implementation and costs. Journal of School Health, 55(8), 319.

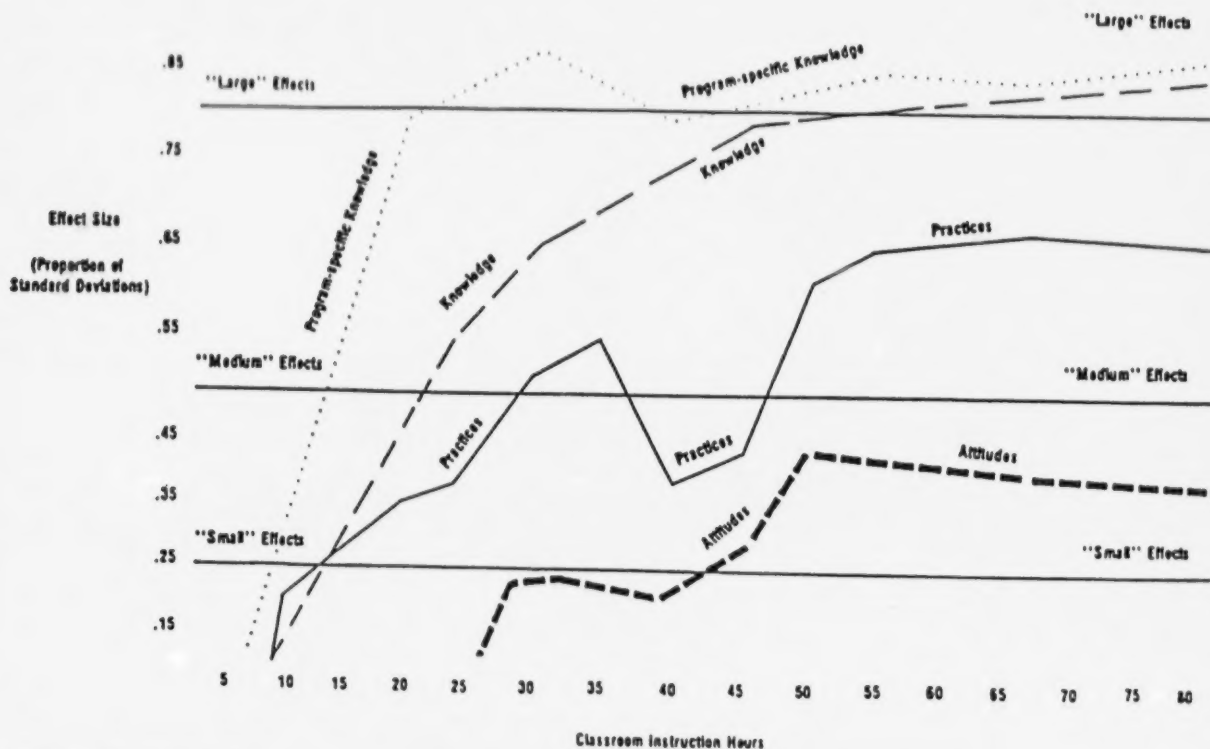
Figure 5
Average Total Costs per Student for Completion of School Health Programs Participating In the Evaluation



- Full Implementation: total costs for full training, required support materials, and classroom hours necessary to teach 80 percent or more of the program activities
- ▨ "Average" Implementation: total costs based upon average amounts of training, materials, and classroom hours taught for each program

Connell, D.B., Turner, R.R., & Mason, E.F. (1985). Summary of the findings of the school health education evaluation: Health promotion effectiveness, implementation and costs. Journal of School Health, 55(8), 319.

Figure 6
Relationship of Effect Size and Instruction Hours for Health Knowledge, Attitudes, and Practices



320 • Journal of School Health • October 1985, Vol. 55, No. 8

Connell, D.B., Turner, R.R., & Mason, E.F. (1985). Summary of the findings of the school health education evaluation: Health promotion effectiveness, implementation and costs. Journal of School Health, 55(8), 320.

Table 1
Comparison of Program Effect Sizes for Student Inventory
Knowledge, Attitude, and Practices
(Proportion of Standard Deviations)^a

	SHCP	HECG	Project Prevention	3R's and HBP	Average of all Programs
Program-specific "tailored" knowledge	.86 (.58)	.58 (.19)	.19 (.13)	.95 (.62)	.65 (.42)
Overall knowledge	.83 (.56)	.41 (.14)	.14 (.10)	.34 (.21)	.43 (.24)
Overall attitudes	.29 (.20)	.05 (.02)	.04 (.03)	.09 (.06)	.12 (.08)
Overall self-reported practices	.68 (.23)	.34 (.21)	.03 (.02)	.03 (.02)	.27 (.18)

^aEffect sizes are computed as differences between program and comparison classrooms change scores divided by the pooled standard deviation for those classrooms. Figures in parentheses are effect sizes estimated at the individual child level rather than classroom level (using the larger standard deviations associated with individual rather than group sampling).

Connell, D.B., & Turner, R.R. (1985). The impact of instructional experience and the effects of cumulative instruction. Journal of School Health, 55(8), 235.

VIII. CONCLUSIONS - NEXT STEPS

Conclusions

The Working Group on Life Skills Training undertook several specific tasks in its efforts. There was no attempt to do an exhaustive review of all Life Skills program interventions. There was a decision to limit our examination to those programs that meet the qualifications of explicit conceptual base, clear rationale for program-design, careful implementation and systematic evaluation of program outcomes. The programs were also selected based on their applicability to young adolescents. At the same time, there was a deliberate effort to cast a wide net and to seek out a broad variety of programs for consideration.

The Working Group found that life skills training programs for young adolescents are a relatively recent development. A very large number of the earlier programs were directed at the high school age (middle and late adolescents). The earliest prevention programs were mainly focused on smoking and substance abuse. These early programs (late 1960's) tended to be brief, single-exposure and heavy on didactic materials. These drug education interventions were mostly ineffective. In fact, a study by Kinder and colleagues of 143 such interventions showed that many of these early drug education interventions actually encouraged drug experimentation. The subsequent generation of prevention programs for smoking and substance use were largely aimed at mainstream high school students but now incorporated principles of social learning and increasingly included generic training in social competence skills. As experience has accumulated and careful evaluations have provided useful feedback on intervention outcomes, programs have tended to become more comprehensive, to be longer, to extend over more than a single school year or to include an annual booster sessions as a follow-up. In a remarkable change, a preponderance of current programs are now targeted during early adolescence and/or late childhood.

Rationale of Programs

The epidemiology of adolescent problem behaviors shows that while overall prevalence of problem behaviors is highest in older adolescents, there are high and increasing rates of adoption of these behaviors in early adolescence. For most current programs, there is a philosophy that it is prudent to mount preventive interventions at the early adolescence period when the crucial decisions are being made but when prevalence is still quite low. An emerging trend is to recognize that there are special considerations related to the developmental period that make human biology and health issues particularly salient. Similarly, for developmental reasons young adolescents have heightened need for

as well as receptiveness to social competence training. This type of training is now included in many programs.

Core Elements

There is much commonality in the content of life skills curricula. Most of them include generic social competence training, (e.g. communication skills, interpersonal negotiation, self-regulation); decision-making strategies; and a knowledge component that covers some health education and the array of social skills that are taught tend to vary with the specific program objectives for the particular population of adolescents.

The processes of teaching the programs show considerable commonality, but they are far from uniform. The common elements found most frequently are use of peer leaders or peer teachers, usually teamed with an adult leader. Most programs are taught in small groups. There is an increasing emphasis on active and cooperative learning methods. Programs vary in the extent to which program support materials are provided and whether or not "homework," usually directed practice of skills, is a part of the curriculum. Programs also vary in the extent to which family activities and linkages are incorporated into the curriculum. Inclusion of family is increasing and has been shown to be a valuable adjunct. Only a small number of programs have designed school-community linkages.

Implementation

There is wide variation in implementation. The number of sessions and length of programs go from as few as 10 hours total to hourly sessions weekly for the entire school year. Similarly, there are very great differences in teacher (or leader) preparation and training. All of the programs described in this report had teacher training time, but there are a large number of programs in current use by schools that have no provision for any teacher preparation. Among the program selected for description in this report there is variation in teacher preparation time from 4 hours to 60 hours. Some programs have additional on-going teacher training and supervision using trained observers in training sessions. Selection processes for choosing teachers show a similar variability. Useful information about attributes of successful teachers has been gained from such programs. Teacher selection and teacher training have been shown to be key factors in fidelity of program implementation and program effectiveness. Current evidence suggests that teacher selection and preparation deserves further attention as a critical aspect of program planning and implementation.

Evaluation

Each program described in this report has designed careful evaluation. Although some of them have not fully reported results, the aggregated evidence from these and other comparable programs confirms that well-designed social competence and life skills training programs are effective in achieving prevention goals.

It has been pointed out by evaluation researchers that the greatest need is for at least one truly exemplary evaluation of a project. It was pointed out that this type of evaluation research, while enormously expensive and time consuming, would yield information that is simply not obtainable when equal resources are apportioned among a large number of small evaluation efforts. Such an effort could definitively address such issues as fidelity of implementation across a range of service deliveries, use of measuring instruments whose reliability and validity have been assured, measuring intervening variables as well as specified outcomes and addressing issues of cost effectiveness. In fact one such exemplary evaluation research project has been carried out for a preventive school-based health program. Since the particular health education intervention studied is very congruent with the life skills training programs, it is included in this report. This effort was described in detail in the section on implementation and evaluation. It gives definitive evidence that of the effectiveness of these prevention programs studied and the analyses permit the clear identification of factors responsible for success.

Although this type of definitive evaluation is too costly and time-consuming for broad use, the results of such evaluation research does influence the design, standards and measures to be used for more routine evaluations. By pointing to the program elements of proven value and efficacy, it also sets standards for program implementation.

Next Steps

Given the proven efficacy of prevention efforts using life skills training, the next major challenge is dissemination. Proven efficacy and clear program standards are important in this process. The diversity of program models is also advantageous in a nation where there is so much local autonomy in schools and diversity of community agencies. It is also advantageous to have programs that are tailored to meet special needs of special populations. Dissemination methods are just beginning to receive attention as an important aspect of program development.

Another new direction is the trend toward inclusion of life skills training in comprehensive programs that link schools and community and, at times, have also involved the media as an

integral part of a total health promotion and disease prevention campaign.

Another emerging trend is the inclusion of social competence and life skills training as part of restructured schools. Examples of these new trends are included in this report. The Carnegie Council on Adolescent Development report on schooling for early adolescents is an important example of this new direction.

Turning Points

In June, 1989, the Carnegie Council on Adolescent Development issued a ground-breaking report, Turning Points, that fills a serious gap in education reform. On the basis of a lengthy, broadly researched study, issues of the appropriate schooling for early adolescents were addressed. The report reinforces an emerging movement to build support for an appropriate education of young adolescents through new relationships between schools, families, and health and community institutions.

The recommendations in this report engage people at all levels of society in this movement: the President and the Congress; officials of State and local governments; members of boards of education, superintendents, administrators, principals, and teachers; health professionals and leaders of youth-serving and community organizations; and parents and students themselves. The report indicates ways in which these groups can help accomplish a fundamental upgrading of education and adolescent development.

The recommendations of Turning Points address major problems in middle grade schools, while recognizing that the schools cannot do their job alone. The report recommends that:

- large middle grade schools should be divided into smaller communities for learning;
- middle grade schools should transmit a core of common knowledge to all students;
- middle grade schools should be organized to ensure success for all students;
- teachers and principals should have the major responsibility and power to transform middle grade schools;
- schools should be environments for health promotion; the education and health of young adolescents are inextricably linked;
- families should be allied with school staff through mutual respect and trust;
- schools and communities should be partners in educating young adolescents;
- teachers for the middle grades should be specifically prepared to teach young adolescents.

Several of the specific recommendations are especially facilitative of the life skills approach presented in the current report.

Schools within schools. The school within school, or house, system assigns school personnel and students to smaller units within the school, reducing the opportunities for students to feel lost and anonymous. Preferably students would remain in the same house throughout their enrollment in the school. The house creates the conditions for teams of teachers and students to coalesce, for advisors and students to get to know each other, and for students to form close associations with their peers. It also provides a climate and structure for the teaching of life skills programs.

Teams of teachers and students. Students in the transformed middle grade school would move from class to class with a relatively stable group of classmates. Students and teachers would be assigned to teams, in which teachers of different subjects plan an integrated course of study for the same students. Life skills teaching could be incorporated as an essential aspect of the integrated curriculum planning.

Advisories. Every student should be well known by at least one adult in the school. Schools within schools and teams provide the stability to permit relationships with adults to develop spontaneously. In addition, the transformed middle grade school would provide time and a structure for teachers and other staff to become mentors and advocates for students. Possible arrangements include small-group advisories and expanded homeroom programs.

Building-wide governance and parental involvement. In a building governance committee teachers, parents, administrators, support staff, and representatives from community organizations participate in establishing goals for the school. The process of shared decision-making can promote trust, respect, and a community of purpose.

Community service. Through community service young adolescents can have the opportunity to work cooperatively with peers and adults toward common goals. They can also acquire a sense of usefulness and a sense of membership in a community beyond the school. Existing life skills programs are designed to provide a curriculum and structures to implement this recommendation.

Cooperative learning. In cooperative learning, students work together in small groups. They receive group rewards as well as individual grades. This arrangement teaches the value of cooperation and fosters community among students while students are learning academic subjects. This recommendation endorses a principle of learning for early adolescence that has been advocated in many life skills curricula.

Life Science Curriculum

Early adolescence provides a unique opportunity to capitalize on young adolescent's specific curiosity about bodily changes and the transition to adulthood. An understanding of human biology and behavior is crucial to a young person's ability to make wise choices about substance use, diet and exercise, sexuality, and other aspects of health.

Prevailing approaches treat health education as a fringe elective of minor importance. Health should be an integral element of life science education. Emphasis on life sciences education at the middle grade level should have the added benefit of increasing the likelihood that many 10-to-15-year-olds will continue their interest in science in high school and beyond.

The Middle Grades Life Sciences Curriculum can usefully begin with adolescent development, focusing on the biological underpinnings of puberty and the social responses to it. During the first semester it can move directly to sexuality: the reproductive system, sexual behavior, and maintaining sexual health. In the second semester, the curriculum can deal with the concept of culture, including marriage and the family in other cultures. The second year of the curriculum can focus on the physiology of both systems, their behavioral associations. A review of salient disorders and health problems that pertain to adolescents' implications for health promotion, and long-term personal and societal consequences.

The transformed middle grade school recommended in Turning Points would be an environment for health promotion. In addition, health education could be integrated into the curriculum with linkages to a life skills training program. In summary, the transformed middle grade school, life skills training would be integrated with life sciences, health education and other parts of the curriculum as part of a coordinated program to teach critical thinking, promote healthy lifestyles, and foster sound decision-making. Readily accessible health services, nutritious food in the cafeteria, a smoke-free and physically safe environment, and physical fitness activities appropriate for all students would enhance the school's role in health promotion. Teaching a core of common knowledge and ensuring success for all students would enhance students' self-esteem and offer hope for the future, providing motivation, knowledge and skills to avoid risky activities.

Middle grade schools can provide young adolescents with knowledge and skills to make informed, deliberate decisions. Merely learning information about substance use and human biology is unlikely to persuade young people to reject self-destructive or dangerous behavior. But valid information combined with training

in life skills or decision-making can help students to resist pressure from peers or from the media; can increase self-control and self-esteem; and can teach them ways to reduce stress and anxiety.

Students can learn these essential life skills through systematic instruction with role-playing, directed practice of skills outside of class and community opportunities for guided experience and mastery. Life skills training has been effective in preventing adolescent smoking and substance abuse as well as preventing pregnancies among older adolescents. Such evidence provides encouragement for the kinds of interventions described in this report. They would fit naturally into the work of the middle grade school proposed in Turning Points.

Although the integration of life skills training into schooling is a highly desirable goal for all the reasons just given, there are also attractive possibilities in other areas. It also cannot be assumed that universal, or even widespread, adoption by schools can be assured in the near future. Given the pervasiveness of the needs for life skills competencies, there is a need to explore a number of avenues for teaching and practice of these skills. Community organizations have much to offer. A few programs designed by youth-serving agencies have been described here. There would appear to be a major and appropriate role to be filled by churches. In another approach, Carnegie Council on Adolescent Development has organized a working group to examine the potential of a range of Voluntary Community Groups. They are likely to have a useful role to play in life skills programs. As was mentioned previously, there is a companion report on the major role of social support in promoting life skills.

The Working Group takes great encouragement from its examination of existing programs for life skills training. There are clear next steps for effective dissemination of programs and for mobilizing a range of societal structures to support efforts to provide our youth with the motivations, social competencies and other life skills needed in our modern, multi-ethnic complex post-industrial society.

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